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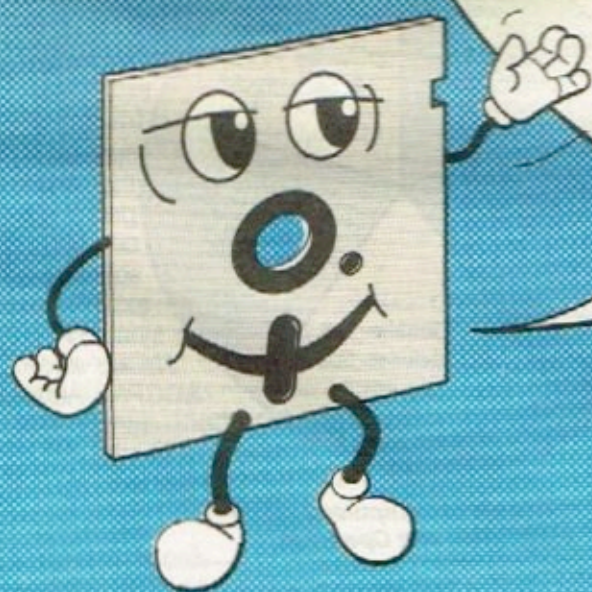
COMPUTER PAPER

BRITISH COLUMBIA'S COMPUTER INFORMATION SOURCE

Vol 1. No. 3 April 1988

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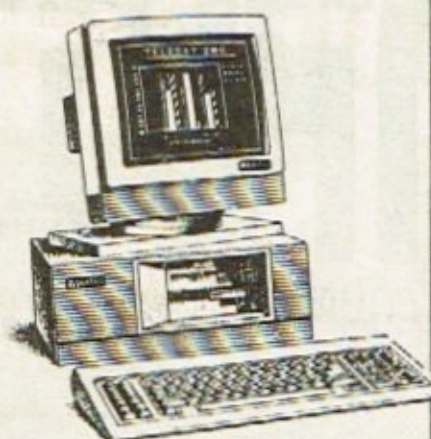
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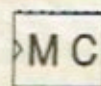
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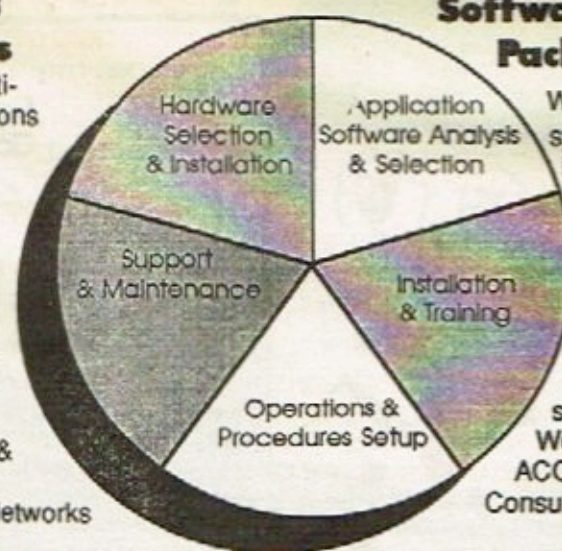
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The COMPUTER PAPER

BRITISH COLUMBIA'S COMPUTER INFORMATION SOURCE

Vol 1. No. 3 April 1988

The Computer Paper
Vol 1. No. 3

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LETTER FROM THE EDITOR

We Are In Demand

We were amazed at the success of our initial distribution. People in the publishing industry had told us that it was not unusual to have 40-50% of your papers still there when you go out for your next distribution. We took back less than 10%, and our goal is 100% pickup. We will achieve this by pruning back on the slower drops where they are getting missed, and building up the ones where the paper is gone with in days of being put out.

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A number of large companies and associations called wanting distribution for their staff. Let us know if you think you can distribute 25 or more copies within your company, and we will arrange a drop off.

This Month's Focus

This month we focus on the B.C. Software Industry which continues to grow as one of our major new industries. There are some exciting companies in this province who are performing well in the international market. We chose to excerpt our lead article from the recent Corum Report on the B.C. Software Industry. This thoughtful and thought provoking report makes a good set of concrete suggestions for the industry and government to follow to leverage on our current successes.

Local Software Companies

We talked with a number of software companies about their various strategies and products to give a flavour of what this industry is like. A big star on the local scene, is of course, Computer Associates of ACCPAC fame. We also talked to Pradel Information Systems a new distributor of the French database Multilog. Folkstone Design is a local Macintosh developer with an interesting approach to developing their product. Finally Dave Allen our Amiga advocat talked with the developers at CygnusSoft to get a portrait of some programmers as young men. This article really was an extended on-line interview which had a very unique flavour. Unfortunately for space reasons we had to cut it back to something more conventional.

The Shareware Shelf

Gordon Simmonds is back with another look at great shareware products, most notably PC File III+ which is due out with a new version.

CD-ROM Conference

Peter Turner went to the Microsoft CD-ROM Conference for us. Really he went for his own company and then offered to tell us about it. We jumped at the chance. He knows the CD-ROM field and he manages to provide a voice of calm reason in the sea of media hype which has tended to surround the optical storage field.

Local Area Networks

Mike Wolf has been teaching people about Local Area Networks for almost as long as they have been around. He shares his introductory notes with us in his own easy to understand style.

Desktop Publishing

Daken Ariel of Coast Computer's is quickly turning into our resident PC Desktop Publishing expert. Here he gives us some perspectives on a new entry into the DTP battle field: The Office Publisher.

You Saw It Here First

Hope you like it again. Keep those subscriptions and letters coming in. Next month we will start showing you some of our fan mail with our first Letters To The Editor section. - Tell our advertisers, you saw them in our paper.

Kirtan Singh Khalsa
Kirtan Singh Khalsa
Editor/Publisher

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NEWSBYTES

ATARI

ATARI Triples Sales

SUNNYVALE, Ca. (NB) -- Atari Corporation says sales increased 199% in its most recent quarter, adding up to nearly \$277 million compared to \$92 million for the same quarter last year. Net sales for the year were a whopping \$493 million, up 91%.

CHIPS

Chip Shortage - Price Hikes

SAN FRANCISCO (NB) -- For the first time in the computer industry's history, prices are going up, not down. A survey of peripheral board makers shows that the shortage of DRAM chips is causing prices on graphics and memory boards to rise and if the shortage continues, system makers are expected to be next. Boca Research has raised prices on its boards using DRAMS by 33%; IDEAssociates' memory modules are 20% more expensive.

OPEN MAC of Concord, California, and AST Research have hiked the prices of add-on memory products by 10-15%. Others expected to raise prices shortly include Intel and Quadram.

Everything from 64K to 1 megabit chips are up in price, sometimes double what they were at the start of the year. Analysts attribute the shortfall to several factors: an increase in demand for DRAM chips, conversion of chip-making facilities to more powerful microprocessors, and a cutback in Japanese DRAM exports, a direct result of the US-Japan trade agreement.

Micron to Build New Plant in Idaho as Chip Shortage Gets Worse

WORSE BOISE, ID (NB) -- Micron Technologies held up the state of Idaho for some major concessions, then announced it would build a new \$90 million chip plant near its present offices instead of in Oregon. Idaho is beefing up courses at Boise State, and promises of labor, tax and low-cost power were made by Idaho Governor Cecil Andrus. The plant will open in 9 months.

Meanwhile, the DRAM shortage is getting acute. The San Francisco Examiner reported March 13 that chips which cost \$2.15 per unit a year ago now go for \$5 under contract, and even more on the spot market. The 1986 semiconductor agreement with Japan is blamed. Micron had lobbied heavily for protection against Japanese DRAM imports, which now hold 90% of the market, according to Dataquest, a market research firm. Micron and Texas Instruments are the only American players left in the Dynamic RAM (DRAM) market.

Mitsubishi Partly Stops Chip Production, Claims Sacrifice

TOKYO (NB) -- In the midst of chip shortage worldwide, Mitsubishi Electronics has partly stopped production of its memory chips. But this doesn't mean that the company is getting out of manufacturing semiconductors. Mitsubishi says it will receive supplies from overseas manufacturers. Mitsubishi plans to purchase the chips from Texas Instruments, Intel, National Semiconductor, and Thomson.

A Mitsubishi executive told the press that the company has decided to sacrifice itself in order to reduce Japan-U.S. semiconductor friction.

Intel Readies New Chips

SANTA CLARA, Ca. (NB) -- Intel President Andrew Grove has told analysts in New York that Intel is preparing to introduce several advanced new microprocessors this year. Grove says there will be six new 32-bit chips but refused to divulge further details. Insiders say the chips will include two new versions of the 80386 -- one a faster version code-named the "P-9" and another which bridges the gap between the 16-bit 80286 and the 80386 chip.

Chip Makers Want More of Japanese Market

WASHINGTON (NB) -- While Japan has stopped dumping semiconductors in the U.S., American chip manufacturers are unhappy with their progress in penetrating the lucrative Japanese market. The Semiconductor Industry Association has called for a new round of consultations between Washington and Tokyo on opening up the Japanese market. According to SIA, U.S. semiconductor sales in Japan are holding steady at about 10 percent, with not much movement upward in the last few years, despite a 1986 agreement that called for Japan to stop dumping and open its market. SIA, the trade group for the chip makers and the American Electronics Association, trade group for major chip users, have issued a joint statement calling on the U.S. government to help open Japanese markets.

In the meantime, Brookings Institution economist Kenneth Flamm, writing for the op ed page of the WASHINGTON POST, says the chip makers did the U.S. a disservice in pushing for the anti-dumping agreement with Japan. As a result, says Flamm, DRAM prices have soared, leaving the U.S. computer industry "in a steadily worsening fix." The price increases for memory, Flamm says, "will be a significant

NEWSBYTES by Wendy Woods (Western USA), Ken Maize (Eastern USA), Dana Blankenhorn (South & Midwest USA), Masayuki Miyazawa and Keizo Yamamoto (Japan), Grant Buckler (Canada), Steve Gold (UK) and Peter Vekinis (Europe)
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obstacle to the U.S. computer industry's game plan: to maintain a competitive edge over Asian clones by aggressively introducing new technology."

CANADIAN NEWSBYTES

Crowntek Selloff Continues

MARKHAM, Ont. (NB) -- Crowntek Inc. has sold its electronic data interchange (EDI) operations to two companies, one formed by former Crowntek managers. Newly formed Lakestone Systems Inc. of Toronto has taken over Crowntek's software, consulting, education and training operations related to EDI, a technology for exchanging business documents electronically. Gerry Diamond, formerly Crowntek's director of corporate marketing, is president of Lakestone. He said five people, three of whom will be principals of Lakestone, left Crowntek to form the new company.

U.S. Deal for Bedford

VANCOUVER (NB) -- Bedford Software has signed agreements with three national U.S. distributors. Softsel Computer Products, Kenfil Computer Products and Tandy Electronics Corp. will distribute Bedford's small business accounting packages nationwide. The five-year old company's first product, Integrated Accounting, runs on MS-DOS machines, and it recently introduced a Macintosh product, Simply Accounting. CONTACT: BEDFORD SOFTWARE, Vancouver, B.C., (604) 294-2394

Canadian Hi-Tech Group Supports Free Trade

MARKHAM, Ont. (NB) -- Another of Canada's high-technology industry organizations has come out strongly in favor of the free trade agreement between Canada and the U.S. Monty Richardson, chairman of the York Technology Association tele-communications committee, said assured access to the U.S. market will allow Canadian high-tech firms to expand and gain the strength to compete effectively in world markets. "It is essential that we strengthen our base so that high-tech industry can become a catalyst for growth and employment," Richardson said in a prepared statement.

The York Technology Association is made up of 130 groups, associations and individuals in the Greater Toronto area who are involved with the high-technology industry. CONTACT: YORK TECHNOLOGY ASSOCIATION, Suite 132, 7305 Woodbine Ave., Markham, Ont. L3R 3V7, (416) 886-1987

Frantek Computer Products Inc. Ottawa, has been acquired by Micro D Inc. of Santa Ana, Calif. Both companies are distributors of microcomputer products.

Mitel Corp., Ottawa, is letting go 410 employees in Canada, the U.S. and the U.K., about 200 of them in Canada. The communications equipment maker said it is making the move in an effort to become more competitive.

Northern Telecom Inc. Mississauga, Ont., reached a tentative settlement March 17 with 5,000 striking workers in Ontario and New Brunswick plants. That could mean an end soon to a strike that began Feb. 29.

COMMODORE

PC-20 Still No.1 In Germany

MUNICH, WEST GERMANY (NB) -- The Commodore PC-20 heads the list for the second month in a row, of personal computers followed by the IBM PS/2 model 60, the Mac II, the Mac SE, the PS/2 model 30, the Commodore PC-40, the Tandon PCA, the Apple Iigs, The Tandon XPC and the Deskpro 286.

In the semi-professional market, the Atari 1040 ST remains number 1 for the 6th month in a row, followed by the Atari 520STM, the Commodore Amiga 2000, the Atari Mega ST and the Schneider PC1512.

New Amiga 2500 Workstation

HANOVER, WEST GERMANY (NB) -- Commodore announced the Amiga 2500 which uses a 68020 chip at 20MHz and offers a graphics screen with resolution of 1008 x 1024 pixels putting its performance up there with dedicated workstations. In addition, the company also announced a transputer-based system (although Atari announced a transputer project previously, Commodore said, "Atari probably had the technology from before since this product has been in development for quite a few years at Commodore"). In addition, the AT plug-in board was shown working under DOS and running Lotus's 1-2-3 to display the compatibility performance.

DESKTOP PUBLISHING

Epson Printer Better Than Laser

QUALITY HANOVER, WEST GERMANY (NB) -- Epson introduced a new 48 pin matrix printer. Able to print at a speed of 300 cps in draft mode and 100 cps in letter quality mode. What's more, it offers a resolution of 360 x 360 pixels which is 50,000 more dots per square inch than a laser printer! The quality is so great that when comparing a normal laser output you start to see "jaggies" which go away with the Epson.

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The printer comes with Roman, Prestige, Script, Courier, OCR-A, OCR-B, Orator and Super Focus fonts and is fully compatible with the LQ-series (it will be called LQ4800), the printer will be available from Q3 1988.

New SGML Mac Program Top Rated

TORONTO (NB) -- SoftQuad Inc. has announced what it says is the first text-entry system for the Apple Macintosh to conform to the Standard Generalized Markup Language (SGML) standard. SGML is a joint creation of the American National Standards Institute (ANSI), the International Standards Organization (ISO) and others. SoftQuad Author/Editor is available for all Macs, including the Mac II running A/UX, Apple's version of Unix.

Jonathan Seybold, publisher of THE SEYBOLD REPORT, has described SoftQuad Author/Editor as "probably the best example so far of the way a highly structured coding scheme can be made painless for the author or editor."

The package uses the standard Mac interface. Each part of a document -- title, paragraph, list -- is automatically given a distinct look on the screen, so the author can see the document's structure without fiddling with formats.

Files created with Author/Editor will automatically include all structural data needed for publication and to generate a database for future updating and retrieval. The package produces output for all publishing and typesetting systems that support SGML. SoftQuad Author/Editor is available now at a single-copy price of C\$645. CONTACT: SOFTQUAD INC., 720 Spadina Ave., Toronto, Ont. M5S 2T9 (416) 963-8337

DOS Version of Cricket Software

SOFTWARE MALVERN, Pa. (NB) -- Xerox has acquired the rights to market graphics and desktop presentation software that Cricket Software Inc. writer for MS-DOS and OS/2 operating systems. Cricket's current software line is aimed only at the Macintosh market. Xerox plans to build on its base in desktop publishing, with Ventura Publisher, by entering the presentation graphics arena. Xerox will have the worldwide rights to Cricket's DOS products. CONTACT: Cricket Software, Malvern PA, 215-251-9890.

Adobe Systems, Mountain View, Ca., has signed an agreement with Scitex Corp. Ltd. to jointly develop an interface between the Scitex Response systems, used for color pre-press in electronic publishing, and the PostScript page description language.

ZSoft, Marietta, GA, will join DP-Tek Inc. of Wichita, KS and AT&T in putting out a complete gray-scale scanning and editing system for desktop publishing at a trade show in Chicago next month. DK-Tek makes a controller for the Hewlett-Packard LaserJet printers, which will be used with Z-Soft's Publisher's Paintbrush and the AT&T Overview scanner.

Hewlett Packard has started to receive shipments of QMS' JetScript controller, part of a multimillion dollar order. The controller offers the HP LaserJet series II printer Adobe Postscript functionality.

Agfa-Gevaert of Ridgefield Park, NJ., plans to buy out the 17 percent of Compugraphic Corp. currently in public hands. Agfa already owns 83 percent of the printing and typesetting equipment manufacturer.

Desktop Publishing is the subject of a series of seminars to be sponsored by the Technical University of Nova Scotia in four Canadian cities during April. The seminars in Winnipeg, Edmonton, Calgary and Vancouver will be conducted by George Marshall, who heads his own consulting firm, G.R. Marshall and Associates of Halifax. Information is available from the Continuing Education Division, Technical University of Nova Scotia, (902) 429-8300.

GENERAL

Employment Boom - Silicon Valley

SAN FRANCISCO, Ca. (NB) -- Apple is hunting for up to 2,000 new people, Hewlett Packard aims to hire for the first time since 1984, Sun Microsystems' personnel expansion is occurring so quickly that the firm keeps running out of space to put them. According to the SAN JOSE MERCURY NEWS, Seagate Technology and Intel are also hiring aggressively. Why the sudden need for more workers, and specifically those in engineering and marketing? Analysts attribute it, in part, to a sales increase for electronics firms fueled by overseas buying. And demand is so hot for marketing and hardware/software engineers that those available are virtually calling the shots on salary. And most of the newly-hired can demand a year-end bonus of 10% of their annual salary.

Silicon Valley: Soviets Want Trade

SANTA CLARA, Ca. (NB) -- An advisor to Soviet leader Mikhail Gorbachev says the U.S. should end its preoccupation with the "old enemy stereotype" and concentrate on opening the doors to freer trade and cooperation in business. Dr. Timur Timofeyevich Timofeev, director of the Institute of International Labor Studies at the U.S.S.R. Academy of Sciences, spoke to some 200 members of the American Electronics Association. Quoted by AP, Timofeev said, "Yesterday I visited Sun Microsystems. They are ready to sell us something, but they are not sure what the reaction of the government is going to be."

While it's clear the U.S. wants to trade more electronic goods and know-how with Russia but it's not clear how the U.S. will be paid. Said Timofeev, "We hope that very soon we can reduce our defense budget. We can use the money for new electronics plants."

Fotomat to Sell Shareware, P.D.

PORTLAND, Oregon (NB) -- Want the latest, hottest, public domain software along with those pictures of Auntie Ida at the family reunion? No problem. At least not if you live in Portland. That's where the Fotomat Corporation is testing sales of public domain MS-DOS software, at \$6.95 per disk, along with sales of film, photos, and flash bulbs. Some 14 titles are in stock at the Fotomat store and 1,100 others are available via catalog. The test is designed to see if public domain software can be sold via an established retail outlet.

TH Enterprises, a Portland marketing firm, is conducting the 90 day test of photos 'n software. By May, Fotomat Corporation will decide whether to extend the idea to its 2,000 retail outlets. So far it looks good. Sales are reportedly respectable.

High Tech Low Point

WASHINGTON (NB) -- The American Electronics Association says the fiscal year 1988 federal budget, enacted with White House and Congressional agreement, represents a low point for high tech interests. AEA says it is frustrated that the budget does little to reduce the federal deficit. "It's clear that macroeconomic policy issues are affecting the bottom line performance of our members companies," said AEA Chairman Horace McDonnell of computer maker Perkin-Elmer. "The trade deficit mirrors the federal budget deficit." Although the budget contains \$100 million for the Sematech consortium of chip makers, AEA says funding for the National Science Foundation and the Defense Department are "disappointing."

Computer Manufacturing: Low Profit

NEW YORK (NB) -- Computer manufacturing has been less profitable than most other industries over the past several years, according to the investment banking firm of Broadview Associates of Fort Lee, N.J. Broadview surveyed 269 U.S. computer hardware and equipment companies and found they had an average return on equity of only 6.5 percent in 1987. A large number of poor performers dragged down the overall results. Most major American companies return 11 or 12 percent on equity, the survey said. Reasons offered for the poor performance: intense competition from abroad, and short life cycles on production, cutting the time for companies to recoup their investments. By contrast, a survey of nearly 200 software and services companies found an average return on equity of about 18.6 percent.

Software Sales to Soar to \$3 Billion

WASHINGTON (NB) -- Retailers in the U.S. sold \$2.9 billion in microcomputer software in 1987, according to the Software Publishers Association. The trade group said software for IBM PCs and clones totaled \$2.2 billion, while Macintosh sales hit \$273 million, with Apple II sales at \$220 million and software sales for the venerable Commodore 64 were \$113 million. According to SPA's Ken Wasch, Macintosh software is taking off, rising from \$51 million in the first quarter of last year to \$92 million in the fourth quarter.

International Pirate Stole \$4 Billion

WASHINGTON (NB) -- Blackbeard never had it so good. The International Trade Commission, a U.S. government agency that polices trade disputes, says overseas hardware and software pirates ripped off U.S. companies to the tune of \$4.1 billion in 1986. Who are the chief offenders? Brazil, India, Japan, Mexico, South Korea, and Taiwan. Taiwanese pirates hauled in \$530 million on computer booty, according to the ITC, while the boys from Brazil walked off with \$528 million. A 1984 study of 10 countries by the International Intellectual Property Alliance found software piracy losses of \$130 million per year. The new ITC report is titled, "Foreign Protection of Intellectual Property Rights and the Effect on US Industry and Trade." CONTACT: International Trade Commission, 202-523-0161.

Tandy Buys Grid Systems

FT. WORTH, TX (NB) -- Tandy Corp. announced March 16 it will pay \$55 million, \$2 per share, to buy Grid Systems of Fremont, CA, one of the first makers of powerful laptop computers. Grid made waves a few years ago with its light, but expensive, plasma-screen portables, which for a time ran under a proprietary operating system. Later versions ran MS-DOS. The buy gives Tandy a respected top-line laptop -- compare it to Chrysler buying Maserati. Tandy will buy stock on the open market to pay for Grid. Grid PCs won't be sold through Radio Shack stores, but Grid salesmen will sell Tandy PCs, once the deal is done, according to Tandy Chairman John Roach. Grid's happy, Tandy's happy.

But not everyone's happy. George Morrow the sage/entrepreneur/author who formerly competed with Grid at Morrow Designs, was one of many commenting on the merger. "It's a disaster for both companies. It's like a country hick trying to make a debutante happy." (Well, George, if the hick has \$55 million on him, what debutante can resist?) CONTACT: Michell Ryan, TANDY, (817) 390-3300

LOCAL AREA NETWORKS

DCA to Release OS/2 Line

ALPHARETTA, GA (NB) -- Working with Microsoft, DCA has produced a new line of IRMA connectivity products under OS/2 for announcement to the press in New York Monday, March 14. New DCA software will let IBM PS/2 computers talk more efficiently with other PCs and mainframes, with minimal additional hardware. The product is reportedly DCA's attempt to compete with the IBM "communications manager" now under development. Analysts quoted by the "Atlanta Journal-Constitution" figure DCA currently controls 60% of the PC-mainframe connection market, twice IBM's share. In other DCA news, the company unbundled its 10net local area network for use with IBM Token-Ring and PC Network interface cards -- previously the LAN required 10net adapter cards. CONTACT: Bill Marks, DCA, (404)

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3) Do you plan to keep the paper after you read it? ☐ 1) yes ☐ 2) no

4) What is your position in the company?

☐ 1) President/CEO ☐ 2) Vice President
☐ 3) Senior Manager ☐ 4) Middle Manager
☐ 5) Entrepreneur ☐ 6) Consultant
☐ 7) Salaried Employee ☐ 8) Other

5) Are you: ☐ 1) Male ☐ 2) Female

6) What best describes your office?

☐ 1) Branch ☐ 2) Local ☐ 3) Head

7) Do you influence your company's decisions on purchasing, leasing or renting any of the following? Check all those that apply:

☐ 1) accounting services ☐ 2) Desktop publishing
☐ 3) computer consulting ☐ 4) computer hardware
☐ 5) computer software ☐ 6) office equipment
☐ 7) office furniture ☐ 8) comp. stationery
☐ 9) telecomm. equipment ☐ 10) on-line computing
☐ 11) none of the above ☐ 12) other

8) What category best describes the industry you work in?

☐ 1) retail trade ☐ 2) wholesale trade
☐ 3) manufacturing ☐ 4) construction
☐ 5) resource based ☐ 6) banking & fin.
☐ 7) insurance ☐ 8) accounting
☐ 9) business services
☐ 10) transport & communications
☐ 11) health, legal, education
☐ 12) professional/engineering/architectural
☐ 13) public service/government

9) How many employees work for your company in the Vancouver area?

☐ 1) 1-5 ☐ 2) 6-10 ☐ 3) 11-25
☐ 4) 26-50 ☐ 5) 51-100 ☐ 6) 101-250
☐ 7) 251-500 ☐ 8) 501-1000 ☐ 9) 1000+

10) What is your company size by total annual sales/revenues?

☐ 1) Under \$100,000 ☐ 2) \$100-250,000
☐ 3) \$250-500,000 ☐ 4) \$500-1,000,000
☐ 5) \$1-5 million ☐ 6) \$5 million +
☐ 7) other

11) How old are you?

☐ 1) under 25 ☐ 2) 25-34 ☐ 3) 35-44
☐ 4) 45-54 ☐ 5) 55-64 ☐ 6) over 65

12) What is your highest level of education?

☐ 1) High School
☐ 2) Some/completed post-secondary
☐ 3) University degree

13) In what area do you live?

Postal Code: _____

14) What is your household income?

☐ 1) under \$30,000 ☐ 2) \$30,000-39,999
☐ 3) \$40,000-49,999 ☐ 4) \$50,000-59,999
☐ 5) \$60,000-69,999 ☐ 6) Over \$70,000

15) Where did you pick up your copy of the paper?

16) What would you like to see more of in the paper?

17) Type of Computer & Operating System:

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Work: _____

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Title: _____

Business: _____

Address: _____

Postal Code: _____

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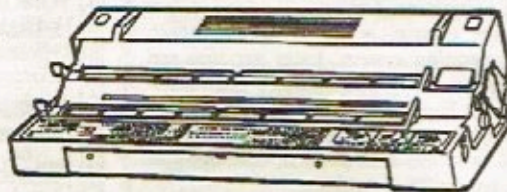
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MACINTOSH

Apple Sues Microsoft

CUPERTINO, Ca. (NB) -- In a lawsuit expected to have far reaching consequences in the IBM world, and on an expected generation of Macintosh "clones," Apple Computer, in an attempt to protect its copyrighted audio-visual display, has launched a major attack on friend and ally Microsoft Corporation, and on Hewlett Packard, charging the firms with copying the "look and feel" of the Macintosh screen display. This surprising suit, filed in U.S. District Court in San Jose, points to two products -- Microsoft Windows 2.03, and Hewlett Packard's New Wave audio-visual interface, which requires Windows 2.03 to run. Apple wants to prevent both products, now in the hands of developers only, from reaching retail stores.

Apple had granted a restricted license to Microsoft for use of certain elements of the Macintosh audio-visual interface for the development and sale of Windows Version 1.03 but the Redmond, Washington software company never received a license to make further revisions. Apple spokeswoman Roni Sarmanian told NEWSBYTES.

The only other firm to receive a legal challenge from Apple in the past has been Digital Research. The 1986 dispute over the look of the GEM interface was settled out of court, Digital officials admitting that fighting such a suit would be too costly.

It will be interesting to see the effect of this suit on other icon and window-based products under development, including the much-anticipated Presentation Manager that Microsoft is developing for IBM and which is said to resemble the Macintosh interface. And it will also be interesting to watch the suit's effect on Microsoft/Apple relations. Microsoft is the largest seller of Macintosh software titles in the world.

HP/Microsoft React

PALO ALTO, Ca. (NB) -- Hewlett Packard has issued a statement saying it will "oppose Apple's suit vigorously" and the real issue behind the suit is innovation. "We believe HP New Wave goes well beyond 'visual display and images,' it goes to the very essence of user interaction with computer systems and networks." HP calls New Wave "leapfrog technology" that goes "well beyond what's available today from other vendors." In other words, this could be a long one, as the major players, including Microsoft, are vowing to fight. Microsoft's statement says it is convinced "the case has no merit" and denies any copyright infringement upon the Apple product.

Observers say the court case could see testimony from Steve Jobs, who made the original licensing agreement with Microsoft, and may also see the issue of the Xerox Palo Alto Research Center where many elements of the Macintosh screen display were invented.

Apple Drops Price on Mac Plus

MARKHAM, Ont. (NB) -- Apple Canada Inc. has announced price cuts on the Macintosh Plus and three hard disk drives. Effective immediately, suggested retail for the Mac Plus drops from C\$3,595 to C\$2,995. The Mac Plus, which despite its name is now the low end of the Macintosh line, comes with one megabyte of RAM and one 800K disk drive as standard equipment.

Apple also cut prices on three disk drives. The 20-megabyte HD 20SC is reduced to C\$1,697; the 40-megabyte HD 40SC goes to C\$2,696; and the HD 80SC, with 80 megabytes of storage, now costs C\$4,527. The reductions amount to between 13 and 15 per cent.

While the rest of us can now afford a Mac and hard disk, we may be getting computers that are obsolete within six months. That's normally what happens when a major price reduction in a line takes place. The Macintosh SE is expected to eventually become Apple's entry-level Macintosh offering.

Wordperfect Ships - At Last

OREM, Utah (NB) -- Nearly a year past its initial projected release date, WordPerfect has finally shipped WordPerfect Mac. As you will recall, WordPerfect soothed tempers at the MacWorld Expo in January by selling \$99 beta

copies of the product with promises of a free update when the final version comes out. Takers of the \$99 deal will get their reward in the mail this week, says WordPerfect. Those buying the product for the first time will have to pay a whopping \$395.

The product is significant because it combines elements of a variety of software products in a word processor. There is a file management function, desktop publishing features, onboard thesaurus, dictionary, and word-search function, among other features.

Education Stackware from T.O.

TORONTO (NB) -- InterAxis, a small Toronto developer of interactive video and computer software, will distribute its new educational product based on Apple HyperCard as freeware. Discover Canada is a geography and history package based on a map of Canada. It contains about 2.6 megabytes worth of HyperCard cards now, and Patrick Lee of InterAxis says it can't grow much bigger until Apple's CD-ROM drive is widely available.

In the meantime, InterAxis plans to have some copies of the stack distributed at a conference in Calgary this week. Those who use Discover Canada will be asked to send C\$45 to InterAxis.

Schools will be able to add to Discover Canada with additional material on their own areas, Lee says, and he hopes that educators will eventually exchange extensions to the product. CONTACT: INTERAXIS, 119 Spadina Ave., 10th Floor, Toronto, Ont (416) 598-5300

Apple Buys Network Innovations

CUPERTINO, Ca. (NB) -- Apple's prowl for new companies to acquire has resulted in its first outright conquest -- Network Innovations of Cupertino. The firm creates software that will link diverse computer systems, such as DEC minicomputers and Macintoshes, and its first new task, according to Apple, will be to link Macintoshes to IBM mainframes in both DOS and OS/2 applications. No purchase price was disclosed for the buy-out of the four-year-old company, although insiders put the cost at \$10 million. Apple promises to allow the firm to operate as an independent subsidiary.

Softsel to Distribute for Bedford

VANCOUVER (NB) -- Softsel Computer Products of Canada, one of the nation's largest software distributors, is now distributing Simply Accounting for the Apple Macintosh. The accounting software from Vancouver-based Bedford Software lists for C\$449. The first Simply Accounting packages were shipped in December and Bedford says its production facilities are going full steam to meet a backlog of orders. Softsel's parent company in Inglewood, Calif. recently signed a distribution agreement with Bedford's U.S. subsidiary in Redmond, Wash.

Dove Computer, Wilmington, NC, released an Ethernet controller for the Mac II called Fastnet II, a Nubus version of Dove's Fastnet SCSI adapter. The price is \$900.

Tandy, Ft. Worth, TX, began shipping a \$300 SCSI adapter card. A \$1,800, 80-megabyte SCSI hard disk is expected to follow.

PC NEWS

New Lotus Metro with Swapper

CAMBRIDGE, Mass. (NB) -- Lotus Development Corp. has begun shipping Release 1.1 of its Metro memory resident desktop management software. The key development of the new version is Swapper, a memory management tool that allows Metro to use as little as 64K bytes of RAM, while giving access to 320K of Metro utilities. Retail price is \$85, with version 1.0 users on the upgrade path for \$35. The swapper approach is similar to the way that Borland is handling its new Sidekick Plus. Swapping allows larger desktop accessories, with better features, but at a cost of some speed.

AT&T Tries Again With Clones

NEW YORK (NB) -- AT&T has launched a new, small-footprint, PC clone, called the AT&T 6300 WorkGroup System. Prices range

from \$1,411 for a single-floppy model to \$2,091 for a single floppy and 20 MB hard drive. AT&T says the new model needs only 70 percent of the desk space of previous entrants in the 6300 line. The new 6300 uses an Intel 8086 CPU running at 10 megahertz, which should make it a fairly speedy performer at the low scale of PCs. It also features seven expansion slots. No indications of whether AT&T intends for the new 6300 to be a Unix workstation, although that may make some sense for the company.

In other news at AT&T, Gordon Bridge, 45, formerly with IBM, will be the new head AT&T's computer sales force. He reports to Vittorio Cassoni, head of AT&T's struggling data systems group. Bridge was selected after what the WALL STREET JOURNAL describes as "an arduous five-month search." Bridge is known as a risk taker. Given AT&T's history in computer sales, some might refer to Bridge's job as "mission impossible."

Faster 386 From Montreal Firm

MONTREAL (NB) -- Canadian personal computer maker Ogivar Inc. is expected to introduce a 25-megahertz 80386 personal computer at the end of March. Company president Jaime Benchemol said recently the machine should be ready to ship by the end of this month. Ogivar was among the first manufacturers to introduce an 80386 PC in the fall of 1986, shortly after the arrival of Compaq Computer Corp.'s pioneering model. Compaq's and IBM's fastest 386 machines today run at 20 MHz. CONTACT: OGIVAR INC., 3200 Transcanadienne, Montreal H4T 1A3, (514) 737-3340

Tandy Winner at Christmas Time

FORT WORTH, TX (NB) -- Infocorp figures released by Tandy Corp. on 1987 market share estimates show Tandy and Apple tied for first place, with 23% of the market each. That's down from the two firm's 25% shares in 1986, with "others", mainly Far East and American clones, picking up the lost market share. IBM's share stood at 17%, Compaq's at 6%, and Leading Edge and Epson both came in with 4%, according to the figures. AT&T lost a point, falling from a 3% share in 1986 to 2% in 1987. Tandy, however, was proudest of Infocorp's estimates for its performance in the 4th quarter, when it supposedly sold 34% of all PCs. Apple followed with 23%, IBM with 14%, and Compaq led the "second tier" with 5% of the market. CONTACT: Ed Juge, TANDY, (817)390-3300

Compiler Speeds Lotus 123

COMPILER SAID TO MAKE SPREADSHEETS FIVE TIMES FASTER WATERLOO, Ont. (NB) -- Looking Glass Software has developed a Lotus 1-2-3 compiler said to speed recalculation by 500% or more. 3-2-1 Blastoff will be one of the first three products introduced by Frontline Systems of Palo Alto, Calif. Frontline marks the return of spreadsheet pioneer Dan Fylstra, formerly of VisiCorp.

Looking Glass Software is the developer of Alice: The Personal Pascal. Brad Templeton, president of Looking Glass, told NEWSBYTES CANADA his new product, which works as a 1-

Microsoft, Redmond, Wa., is shipping MACH 20, a three-part add-in card that upgrades 8088-based PCs to 80286-based machines, adds 16K of cache memory, a 16-bit data bus, and a mouse connector. The price is \$495.

Symantec, Cupertino, Ca., has released version 1.01 of its Q&A Write word processing software. The product, \$199, includes an enhanced spelling checker, soft hyphenation support, and offers more font and laser printer support.

Pico Publishing, Cedar Rapids, IO, released a \$25 program called Browse, which displays 43 lines of text on EGA monitors and searches ASCII files without loading a word processor.

WordPerfect, Orem, UT, signed a co-marketing agreement with Bitstream to build a Fontware installation kit for WordPerfect 5.0, which ships this month. The new version has also been set to work with the Hercules' new RamFont mode, which speeds editing of text set in fonts, and it will ship with a sampler graphic disk from Marketing Graphics Inc. called Publishers' PicturePak.

2-3 add-in, provides at least a fivefold improvement in recalculation speed on any IBM-compatible PC equipped with a math coprocessor. It can also be used in combination with minimal recalculation algorithms to get even more reduction in calculation time, he said.

3-2-1 Blastoff will be shipping in the second week of March and will be priced at \$124.95 U.S. Canadian pricing hasn't been set yet, but Templeton said about C\$175 would be probable. Although it is not definite, Looking Glass software may be a distributor for the product in Canada. CONTACT: LOOKING GLASS SOFTWARE, (519) 884-7473

OS/2 - PS/2

First PS/2 Clone Announced

HANOVER, WEST GERMANY (NB) -- A Taiwanese computer manufacturer stole the show at Hanover Fair by introducing the first PS/2 compatible system. Twynhead corporation announced the Superset-30, Superset-30 Plus, Superset-50, and the Superset-80 systems.

The Superset-30 and the 30-Plus are clones of the PS/2 model 30 and offers an 8086 and offer MDA, CGA and Hercules graphics built-in (the model 30) and VGA graphics for the model 30-Plus. The model 50 uses a 286 CHIP running at 12MHz or 16MHz (using the AMD chip - and faster than the model 50 of IBM which runs at 10MHz) and the model 80 uses the 16MHz or 20MHz 386 chip. It also supports both the 80287 and the 80387 coprocessor chips and can have as much as 16MB of zero-wait state memory. It will be interesting to see what IBM will do about these systems and whether they have been cloned far too close for IBM's liking. Stay tuned for more developments out of Taiwan.

May 5 Big Day For IBM News

HANOVER, WEST GERMANY (NB) -- IBM has set May 5th as the day when the company is going to announce the follow-on product to the PS/2 series. "IBM has made the decision to reposition its product lines once a year and to introduce products that will fill in gaps currently in the PS/2 series," said Michel Dermont, IBM's product manager for Belgium. In addition, the company is expected to announce new 9370 series systems.

When one looks at the current PS/2 lineup, there are gaps in the numbering. There is currently no PS/2 model 40, no model 70 and no models 20 and 10. Conjecture has it that IBM will introduce new systems which will fill in these gaps. The products expected are as follows:

- PS/2 model 50: Gets a fast 40MB hard disk and a diskless version as a LAN server.
- PS/2 model 40: Supposed to be a laptop
- PS/2 model 70: The portable based on a 386 chip with 1MB of RAM, serial and parallel ports, 20MB and a 3.5 inch floppy and screens which can be either LCD or plasma, as has the Toshiba T3100.

Sources close to IBM told NEWSBYTES, "It is expected that the PS/2 model 70 will cause a few shivers at Compaq's back and may return this lucrative market back to IBM from Compaq."

Lotus Previews OS/2 Database

CAMBRIDGE, Mass. -- Lotus will plunge feet first into the database market once OS/2 Presentation Manager is available in the fall. In the works is Lotus/DBMS, which will feature structured query language (SQL) and a standard data interface driver for seamless access to other databases, without file translation. Lotus is working with Gupta Technologies Inc. of Menlo Park, Calif., on the product. "Users only need to know the name of a data-base in order to access it," said David Gilmour of Lotus' advanced products division. "They don't have to worry about where it is located." The program will also have a graphical interface and will be very closely integrated to 1-2-3G, the graphical spreadsheet Lotus is developing for OS/2 Presentation Manager.

Phoenix Shows PS/2 BIOS

HANOVER, WEST GERMANY (NB) -- Phoenix showed a PS/2 model 60 running the new BIOS as released by the company for those that need BIOS for PS/2 clones. Yeah, but wait a minute. There are currently no PS/2 clones! "We have signed more than 20 companies which have

New Headache for Canada's Chartered Banks

Spells Relief for Canadian Business

The Accounting Master Payroll Program may spell the end of the chartered banks domination of the payroll processing market for many small and medium sized businesses. Now business owners can complete their own payroll in house, and save a bundle on bank charges and interest.

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Accounting Master Inc., of 2441 Beta Ave, in Burnaby, has introduced the definitive payroll program for the IBM and compatible computers. This easy to use program does it all for you. T4's, employee separation reports, journals, cheques, pay advices, and detailed job costing are just some of the reports it handles. It even exports directly to ACCPAC™ general ledger, but saves the complex set up time often associated with ACCPAC's own payroll program.

Until now payroll software for personal computers has been either too simple to handle more than the most straight forward situations, or too big and expensive to set up. Accounting Master promises to be the best solution possible, it is easy to learn and inexpensive to buy and maintain.

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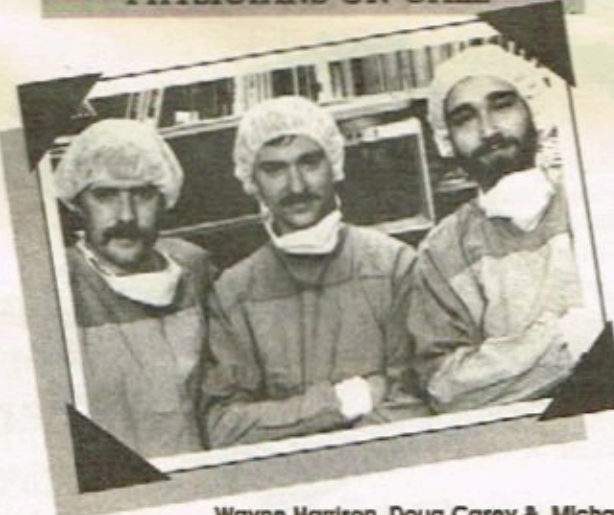
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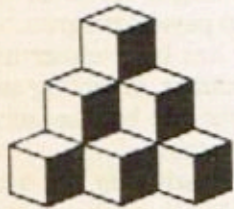
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said they will be doing work in that area," said a company spokesman. The BIOS runs without any problems, and as far as the company is concerned, it will give a boost to IBM's MCA architecture, now going head-to-head with AST's new channel for the 386 system. "Just wait and see what will happen at spring Comdex," he said. I can't wait!

Bugs In OS/2?

HANOVER, WEST GERMANY (NB) -- "We believe that the OS/2 operating system has some bugs and that it will only run on real IBM-only hardware," said Ernst Schneider, IBM's product manager for the OS/2 product here. NEWSBYTES asked him whether he knew about the fact that when installing OS/2 on a Seagate ST-4096 or on a Maxtor 1085 hard disk, OS/2 hangs the system upon loading. He said he did not know and he was going to look into it. Thus the moral of this story is if someone says that such and such an 80MB system can run OS/2, check it out first!

Computer Associates, San Jose, Ca., is shipping an OS/2 protected mode version of SuperProject Expert. Computer Associates has consequently become one of the first software developers to begin shipping OS/2 applications.

Texas Cloning Rumours have shifted from the Macintosh to the IBM PS/2 line. Tandy and Dell are both supposedly going to offer PS/2 clones in April, according to "Infoworld." (Considering their track record with the Mac rumors, take that with a ton or two of salt.)

THE STOCKMARKET

COMPAQ, Houston, was added to the Standard & Poor's Index of 500 stocks. (If you lose your shirt in the options' market, blame the boys and girls on the Compaq ranch.)

Gandalf Technologies Inc., Ottawa, reports a profit of C\$3.9 million for the six months ended Jan. 31, on revenues of C\$76.4 million. That's up from a C\$2.9-million profit on revenues of C\$62.6 million in the same six months a year ago. Gandalf makes data communications and networking equipment.

Sydney Development Corp., Vancouver software developer, lost C\$5.1 million in the nine months ended Dec. 31, compared with a C\$7.7 million loss in the same period of 1986. Revenue was C\$14.9 million, up from C\$11.8 million.

Epic Data Inc., Richmond, B.C., lost C\$1.02 million in the three months ended Dec. 31, compared with a C\$389,000 profit in the same period a year earlier. Revenue fell to C\$1.79 million from C\$4.95 million. The company manufactures data collection systems.

TELECOMMUNICATIONS

Inside the Hayes-Prodigy Deal

NORCROSS, GA (NB) -- When Hayes Microcomputer Products Inc. started out a decade ago, it won success by following standards and hiding out in small markets. Times have changed. Now the modem giant prefers other giants. On February 29 Hayes released details of a deal it signed with Prodigy, the IBM-Sears joint-venture in videotex. Prodigy will bundle a special Hayes modem with its service which plugs directly into a wall socket, then into the computer through a standard phone plug and Hayes-made adapters for IBM or Apple computers. Install the modem, slap the Prodigy software into a disk drive, and you have a complete, graphics-oriented videotex service -- the graphics are on the Prodigy disk.

Trintex is the latest, and probably last, attempt by giant firms to dominate the online market. Its information providers are the cream of American industry: Kroger, J.C. Penney, Dow-Jones, and newspaper syndicates, along with Sears itself. Profits are expected from transactions, not online time. Pricing will be more like cable TV than The Source -- a straight monthly charge. The system will be fed by an IBM mainframe in White Plains, NY, and IBM minicomputers in nodes throughout the country. CONTACT: TRINTEX, Brian Ek, (914)993-88438791

Rate Changes for Hi-Speed Lines

OTTAWA (NB) -- Telecom Canada has filed an application for rate changes with the Canadian Radio-television and Telecommunications Commission (CRTC) that would cut the cost of leased data lines for large users, while smaller users would pay more or less depending on the speed of transmission. Under the proposal, filed with the federal regulatory body in the last week of February, high-speed 19.2-kilobit-per-second lines would cost C\$3,810 a month, down from C\$5,279. But a 1,200-bps line would go up from C\$1,127 to C\$1,319 per month, and a 2,400-bps line from C\$1,723 to C\$1,759. Lines running at 4,800 and 9,600 bps would become slightly cheaper. The move wouldn't affect the average PC and modem user, but it reflects the trend to higher-speed data communication.

No Dirty Talk Here

MONTREAL (NB) -- Reach out and touch someone? Don't even suggest it on Alex, the household telecommunications system Bell Canada is about to launch. Alex (named for Alexander Graham Bell) will be comparable to the French Minitel system, which includes electronic meeting places for the sexes known as messageries roses. But Bell apparently doesn't think Canadians are ready for such things. No chat lines will be allowed on the system, according to a recent story in THE GLOBE AND MAIL in Toronto.

Bell's competition, the independent CETI Inc., will be slightly more liberal. CETI's system will have two chat lines, and flirtatious conversations will be allowed within limits. CETI plans to monitor the channels, however, and says if conversations get "too harsh," they will be cut off.

Fax Board Sales Climbing

Conversations NEWSBYTES has held with companies making facsimile boards for PCs reveals the boards are selling like hotcakes, and that demand may be outstripping supply. The GMS division of DEST, in Boca Roton, said last week its international sales are actually stronger than domestic sales, because fax is even more popular than voice overseas. Fax boards, unlike fax machines, usually contain Optical Character Recognition (OCR) software, so that the messages you get can be saved and edited easily on a PC. CONTACT: Judith Mercer, GMS DEST, (305)994-6500

Telenet, Reston, VA, created a new PC Services Group which will try to come up with new versions of Telenet's PC Telemail software, including a version for networks and for the Apple Macintosh line. (Who knows, maybe an Amiga or Atari someday.)

CNCP Telecommunications, Toronto, will double the capacity of its Dialcom electronic messaging service. The data communications company is installing four additional minicomputers from Prime Computer of Canada Ltd. to add capacity to the X.400-based messaging service, launched last year.

UNIX

Sun to be Bigger than IBM?

SAN FRANCISCO, Ca. (NB) -- If Sun Microsystems continues its skyrocketing growth rate for the next 22 years, it will top IBM in annual revenues by the year 2010. This comes from the people at "California Technology Stock Letter," who cite Sun Microsystems' stellar growth rate of 35% a year compared to IBM's 11%. "Sun would pass them and become the first trillion dollar corporation. Not bad for a management that would still be in their fifties," remarks the authors. While it seems unlikely that Sun could sustain this rate of growth, the potential of a unified UNIX operating system, on which Sun is working with AT&T, presents the company with a promising future beyond the engineering and scientific markets where UNIX is popular today.

Meanwhile, Sun has awarded rights to manufacture its SPARC chip to LSI Logis Corporation of Milpitas. The RISC-based chip will now be made by four firms. SPARC has already been adopted as the chip of choice by AT&T, Unisys, and Xerox, among others, for its next generation of computers.

Unisys Does Unix

BLUE BELL, Pa. (NB) -- Unisys Corp. has joined American Telephone & Telegraph Co. and Sun Microsystems Inc. efforts to develop a common Unix operation system for high-end computing. Unisys also said it would license Sun's Sparc reduced instruction set chip for use in future Unisys machines that will speak Unix. The decision by Unisys is evidence that AT&T and Sun's strategy of lining up other makers to join their Unix alliance. But all is not easy sailing for the Unix crew. Other companies, particularly Sun competitors such as Apollo Computer of Chelmsford, Mass., have formed an informal group that frets about the "privatization" of Unix.

Unisys is betting that the AT&T-Sun alliance will turn Unix into the operating system of the future, linking everything from personal computers to supercomputers. The company, the world's third largest computer firm, already has a strong presence in the Unix marketplace. Last year, Unisys said, its sales of Unix-based systems doubled, and now amount to more than \$500 million per year.

IBM to Speak Unix at High End

RYE BROOK, N.Y. (NB) -- IBM appears to be going for Unix whole hog. The computer giant has announced that AIX, its special flavor of Unix, will now work on the company's most powerful computers. With the introduction of AIX/370, IBM now has a consistent, Unix-based operating system across all its products. That goes a long way toward toppling the Tower of Babel in operating systems that has given companies such as Digital Equipment Corp. a marketing edge in recent years. Big Blue says its VM operating system will support AIX/370 across the System/370 processor families from the 9370 to the 3090.

HCR Unix Runs DOS Programs

TORONTO (NB) -- Confused about OS/2? Stuck with a lot of MS-DOS applications and nightmares of obsolescence? HCR Corp. of Toronto believes it has a solution. The Unix-oriented software company is now distributing 386/ix, a full implementation of the Unix System V operating system for 80386-based computers. One option with 386/ix is a module called VP/ix, which allow MS-DOS software to run unchanged. Michael Tilson, president of HCR, said the system can even run multiple DOS programs, providing multitasking just as Unix does with its own applications. 386/ix was developed by Interactive Systems of Santa Monica, Calif., an HCR became the only Canadian distributor this month. The price of the software ranges from C\$500 for a bare-bones two-user version up to just over C\$3,000 for a system with all the options, including compilers, a text processor, the VP/ix module and a user-friendly interface shell, licensed for an unlimited number of users. CONTACT: HCR CORP., 130 Bloor St. W., 10th Floor, Toronto, Ont. (416) 922-1937

AT&T, Motorola in Unix Pact

NEW YORK (NB) -- AT&T and Motorola have reached an agreement on extensions to the Unix operating system similar to an earlier arrangement between AT&T and Sun Microsystems and AT&T and Microsoft Corp. The deal is expected to defuse a controversy that arose when other manufacturers thought they were being aced out of the Unix market by the AT&T-Sun deal. The deal will make any of the enhancements that AT&T and Sun come up with available for Motorola processors as well. The deal with Sun meant a uniform Unix for machines with Sun's Sparc processor; the Microsoft deal meant a version for the Intel 80386 processor; the Motorola deal will mean an identical Unix for the 68000 chip family. In a related development, Motorola is expected to a large stake in Unisoft Group, the British software company that developed A/UX, the Apple-flavored Unix.

Desktop Publishing Canadian Style

T.O.P. Eyes Huge Market Potential

Desktop Publishing Software is a burgeoning new software application. Estimated by Dataquest, the market size for desktop publishing products will reach 4.3 billion dollars by 1991. Of this, the software portion is estimated at \$200 million. That is a sizable expenditure on software that didn't exist three or four years ago.

Which is Better? Pagemaker or Ventura

In the IBM compatible world of desktop publishing, we see two clear software leaders: Ventura Publisher by Xerox and PageMaker by Aldus Corporation. Although they were designed with distinctly different approaches, they have many similarities; pull-down windows, icon and mice pointing devices. They perform similar operations: page layout, importing text and graphics files and printing to a variety of printing devices. These include dot matrix printers, laser printers and typesetters.

Where they differ is more important in terms of matching your requirements to the correct software. Pagemaker has a paste-up board approach which will appeal to graphic artists, page composition professionals and printing companies. It is considered easy to learn and well-documented. Ideal for creative page layout, Pagemaker has become popular on both Mac and IBM.

Ventura Publisher, on the other hand, appeals more to the corporate marketplace familiar with word processing. Designed with stylesheets and paragraph attribute definitions, Ventura is well suited for larger documents with its text flow through capabilities. It is much faster speed on re-drawing the edited page to the screen. Because it allows text to flow from one page to the next under the supervision of the stylesheet, Ventura is quicker in many applications. Generally, it is a more difficult program to learn, although users who have mastered it swear by it.

It is a close fight as the new version of PageMaker, version 3.0, has added stylesheets, text flow capabilities and a faster refresh to the screen. Just as we thought things were settling down, a third power-packed desktop publishing program, The Office Publisher, has entered the fray from Toronto-based Laser Friendly.

The development of The Office Publisher was financed by Print Three of Toronto, a large commercial printing company and franchise of electronic instant print centers. In fact Print Three still owns 90 percent of Laser Friendly, a publicly traded company. The product's genesis from the printing industry does show up in its many sophisticated controls.

\$1295 is The Price

Marketed as a high-end product desktop publisher is not cheap at \$1295.00. PC Magazine asserts "IT's complicated and expensive, but it's worth it." Laser Friendly claims that The Office Publisher addresses 80 percent of the non-commercial requirements (read business needs in-house) as well as satisfying 20 percent of commercial requirements (read printers, typesetters etc...). They argue this compares with 60 percent of non-commercial needs covered by Ventura Publisher and Pagemaker, and no competition in the commercial marketplace. They claim that more corporate internal publishing can be done on The Office Publisher than with the other programs. Any program must be judged on all aspects of implementation; the initial training, the speed of the program operation and the speed in designing with it. This is where a program succeeds or fails. Let's look at the program in detail.

More and Less

The Office Publisher (TOP) does has extensive capabilities in page layout, and uses text attribute definitions similar to Ventura. Like Ventura, TOP is designed within GEM. Although it uses a modification of the latest version 3.0, it still doesn't have Ventura's snap in re-drawing a screen. Laser Friendly argue that this is because it is more accurate in text placement on the screen.

Handles Large Documents Well

Because the program manages the file between the hard disk drive & RAM memory, TOP can handle large documents - up to the limit of your

Continues on Page 18

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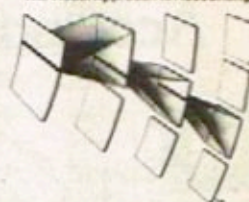
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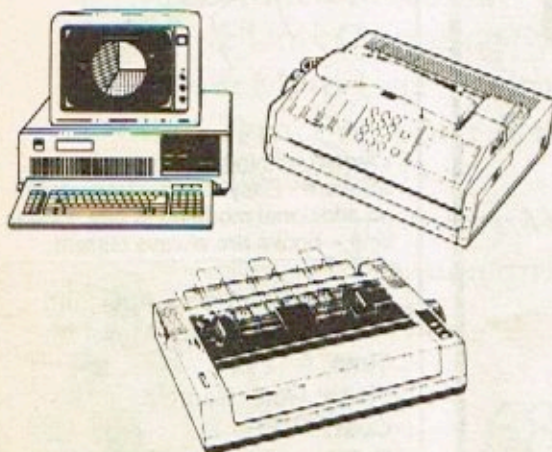
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"B.C. Inc." The Corum Rep

The following article is excerpted from the Corum Report, a Strategic Audit of the B.C. Software Industry entitled "B.C. Inc." The report, which was commissioned by the B.C. Software Industry Association, gets its data from questionnaires circulated within the B.C. software industry, software resellers, and users of B.C. software. As well, the report's authors looked at similar U.S. studies and general industry statistics. Finally, they conducted personal interviews of both US and B.C. software companies and did in-depth analysis of several software companies.

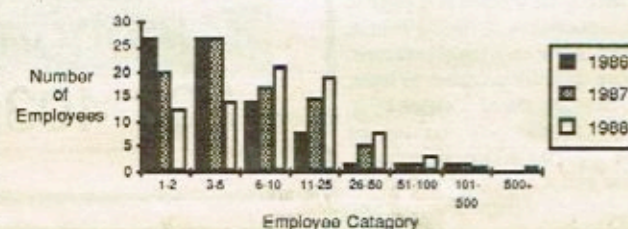
Incredible Growth and More to Come

The software industry is the fastest growing major new technology based industry in the world today. There are over 18,000 software firms in North America alone, most of them new since 1980 the year which heralded the advent of the microcomputer. The growth has been breathtaking in advancing from less than 200,000 microcomputers installed in 1980 to an estimated 80 million installed by 1987 worldwide. In spite of all of this past growth, the next 5 to 7 years will hold more changes than all history to date. This is because of major new advances in technology that allow us to have cost performance advantages which will make computers applicable to even larger numbers of individuals, business, and institutions. These include Laser Technology, Fibre Optics, High Speed Networks, Color Graphics, Artificial Intelligence, Fourth Generation Languages, Mass Memory and faster execution time...

BC's Fastest Growing Industry?

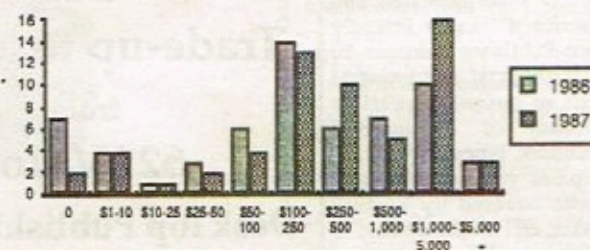
The software industry may well be British Columbia's fastest growing major new industry. Looking ahead it may well be the Province's industry of the future. From only a handful of

Company Employee Growth 1986-88



companies in the last decade, the software industry has grown to an estimated 250 firms in British Columbia, who expect a whopping annual growth rate of nearly 50%. Accenting these growth statistics, is the fact that in 1982, there were no firms listed in the software industry at over \$1 million in sales. By 1987, there were a number over \$1 million with three companies having over \$5 million in sales. By the end of this year 84% of these firms are expecting to be at least break even or profitable. However, despite these extraordinary growth statistics, there are reasons for serious concern for this fledgling industry.

Sales and Growth



All is Not Rosy...

The software industry in North America has just over 18,000 firms. To be competitive, these firms have to be prepared to compete in world markets, not just local markets. They have to be prepared to sell through multiple sales channels, dealing with complex distribution and support issues and an ever changing panorama of new technology in order to stay competitive. The economics of the business are unique. Barriers to entry are low. The cost of goods sold are minimal, borders do not provide a real barrier or problem for either export, or conversely, for the import of competitive products. It is with this background that we register concern, since most B.C. firms are small (40% started since 1984) with over half of them getting their revenues primarily from the local market sold through direct channels. Most of them are under capitalized to compete in world markets, and perhaps more importantly lack the sales, marketing and management expertise to be able to expand their exports. Additionally, the support infrastructure in these critical areas is minimal. Further, there has not been the kind of cross-pollination of management and resources from traditional industries that other areas of North America, especially in the U.S. have developed.



British Columbia based software firms have been successful due primarily to the fact they have competitive world class technology. There's been a major movement into microcomputers utilizing many of the more advanced languages and databases for development. However, for these firms to grow and create a billion dollar industry for British Columbia, they need to address the shortcomings just mentioned.

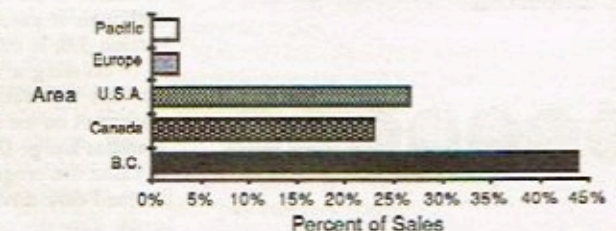
Software is What Makes it All Run

It is important that traditional industry, the financial community, and government stand up and take more notice of the software industry. The primary reason for this is because software is critical to almost any other high technology industries in which British Columbia hopes to compete. Hardware can't do anything without software, whether it be communications, transportation, robotics, games or any other industry that utilizes any form of computerized technology, which is almost all major technology. Therefore, it is critical that a strong software industry be supported and nurtured and that every effort be made to help these firms expand their marketing and sales efforts, especially into the U.S. which is the bulk of the software market. It should be kept in mind that because software has a very low cost-of-goods-sold, revenues that come back into Canada can be extremely profitable.

Black Eyes

Briefly the weakness of the software industry are:

- 1. Lack of Financial Resources.** BC companies are not unique here, it is estimated that 80-85% of all software companies in North America are under financed and lack the resources to make major investments.
- 2. Minimal Marketing Expertise.** There have been improvements in this area since a 1984 survey was done. Still most firms tend to focus on direct sales to small businesses in local markets. This is much different from their U.S. counterparts.
- 3. Lack of Management Cross-pollination.** There is not enough management talent crossing over from other B.C. industries to software. Additionally, not enough are recruited from the outside in for key positions.



on The Software Industry



capitalists, institutional investors, bankers or interested corporate investors. After the company is presented, attendees can sign-up for up to eight one-on-one detailed presentations, which run 45 minutes to an hour. Attendees preferably out number presenters by ten to one or more. The cost to present is usually around \$1,000 and the cost to attend from \$250-\$750.

• U.S. Centre for B.C. Software Companies

We recommend Seattle which has one of the richest software infra-structures in the world. We suggest that the government or SIDA get a block of space and parcel it out individually to smaller firms. This approach would cut the overall cost to the individual software firms. Already a number of firms have offices in the U.S. and all that may be required is some coordination.

• Venture Capital Software Investment Guide

This is a simple idea to promote software in B.C. Essentially, it is a guide consisting of one page company overview, providing basic information - when the company was founded, sales, employees, product overview, history to date, etc. These entries are put into a book and distributed to every venture capital and institutional investment firm in North America. The guide would probably have 50-100 pages and cost about \$200 per company.

• Hosting a Major Computer Conference

We strongly suggest that the Tourist Bureau, in conjunction with SIDA and the appropriate hi-tech development associations pursue at least one of the major world or U.S. conferences for next year. Typical U.S. conferences are the CD-ROM conference, the Artificial Intelligence Conference, etc. Vancouver has the facilities to support such a conference and the ideal environment to be very attractive to conference organizers.

• The B.C. Software Fund

A British Columbia based investment partnership designed to invest in software and related technology companies. The fund would focus on investing in the Sales and Marketing aspects of companies. The money put up by the Fund would be in exchange for a declining royalty yield on sales plus stock options. In addition, the Fund would have an advisory board which would provide sales and marketing assistance through a network of experienced professional firms and executives.

4. Dependence on Government Programs Far too many firms spend an inordinate amount of time worrying about relatively small grants, aid and tax breaks - time taken away from the critical tasks of sales and general management. Additionally far too many firms expect the government to be the primary source of financing and assistance. They worry about this instead of focussing their energies on other alternatives such as joint ventures or strategic alliances.

Feathers in Our Caps

Conversely the strengths of the industry are:

1. **Excellent technology** State of the art software is being produced here.
2. **Attractive environment to bring in top quality people** this is an obvious one, B.C. is a great place to live.
3. **A competitive educational environment** BCIT and other institutions are providing a good quality of education to young programmers.
4. **Improving business infrastructure** Things like: local software reproduction facilities, companies specializing in manual writing, high tech tele-marketing, public relations and media specialists for the software industry are being to appear.
5. **Proximity to U.S. markets.** Being close to Washington state, which has some major software firms (i.e. Microsoft), is an asset.
6. **Excellent potential government assistance programs.** This is a unique benefit that most American first don't enjoy. There is almost no assistance from the government in the U.S.A. Government assistance is a double edged sword however, hence it is listed as both a strength and a weakness, because of the potential for over dependence.
7. **Vancouver Stock Exchange** While it is used by only a few firms this is the premier venture capital type of exchange in the world.
8. **Evolving and Successful Role Models.** Consumer Software, Basic Group, Bedford etc., are showing that market successes are possible from B.C.

So Here is What We Need to Do:

The major recommendations that we believe should be implemented to help enhance British Columbia's position as the software capital of Canada are the following:

• Software Education Series

This is a comprehensive education series program, specifically geared towards small software companies in the areas where they need assistance the most, primarily in money, marketing and management. These would be one day sessions, each targeted toward CEO's and other software executives.

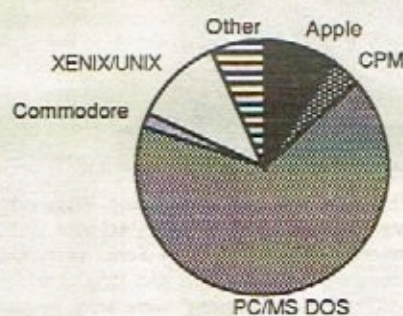
• High Technology Venture Forum

The concept here is simple: the key executives from a company gives a short presentation (5-6 minutes) to an audience of venture

And We've Got to Do It NOW

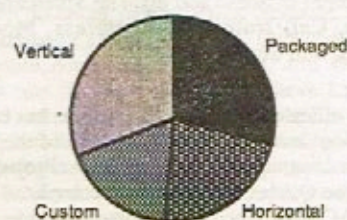
British Columbia has a lifestyle and the base of technology to develop companies that are significant world players in what may well be the fastest growth industry today, computer software. Given the importance of this industry to the future of technology based enterprises in British Columbia, the time is now to help implement some of these recommendations which can have a significant impact on the growth of this industry, and an immediate impact on exports. British Columbia has an environment that attracts the right kind of people, and an expanding environment for growth to help young companies. There is also a unique relationship between business and government that does not exist

Operating Systems Supported



in other centres of competition. Because of this, government efforts, if well planned, coordinated and leveraged, as we have outlined here, could have a significant impact. However, it is important that government plan their activities for maximum leverage and effectiveness and not deal with the industry in a piecemeal fashion.

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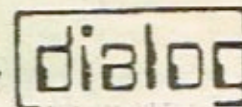
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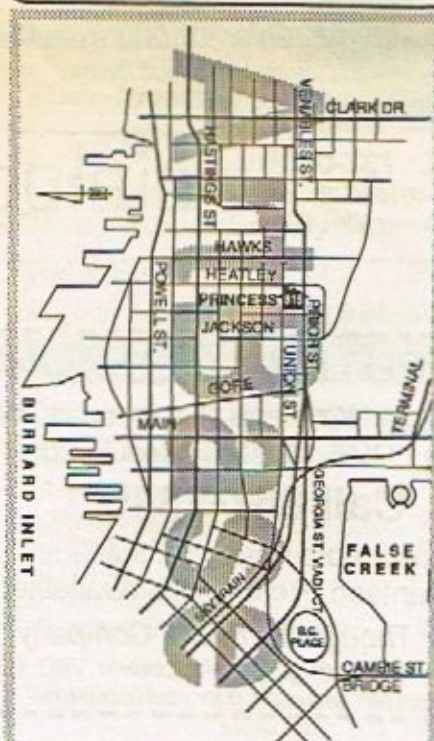
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Computer Associates

Basic Software Group

One solution to the financing problems mentioned in the Corum Report is to sell out to a larger company with more resources to market your product. An example of this approach is the local software company Basic Software Group (BSG) which was bought out by the much larger American company, Computer Associates.

A Giant Among Software Companies

Computer Associates is the world's largest independent publisher of micro, mini and mainframe software with revenue of \$US 650 million in 1987. They have over 70 offices worldwide in 21 countries and their software is published in 10 languages.

Stable Transition

What was once BSG is now the Vancouver office of Computer Associates is headquarters for their Canadian Micro Products Division. ACCPAC Plus accounting series continues to be developed here for both the Canadian and U.S. markets. Sales and marketing in Canada are handled both in Vancouver and Toronto. The Vancouver office has managed to remain a fairly stable and independent group since the transition from BSG to Computer Associates. There were no layoffs or replacement personnel brought in. There are about 70 employees altogether here, 40 of whom are directly involved in the three Research and Development sections: Programming, Documentation and Quality Assurance. Two of the three founding partners in BSG are still with the company. Norm Francis is VP of Canadian Operations, and Ted Comfoltey is VP Administration in San Jose, California.

Evolutionary Strategy

Computer Associates marketing strategy is one of refining what exists and bridging from current technology to the next generation. This approach brings evolutionary as opposed to revolutionary new products. Their ACCPAC series has evolved through at least four major revisions to solidify its standing as Canada's best selling mid to high end accounting software. (Evans Research, 1986) An OS/2 version of ACCPAC Plus is scheduled for this April. SuperCalc and SuperProject although not locally developed products have seen a similar evolution. The OS/2 version of SuperProject was just released this month.

A Range of Products

Computer Associates has over 30 products in the microcomputer market including: accounting, spreadsheet, spreadsheet add-ins, project management, and word processing applications. Their most recent change in products was the repositioning of the ACCPAC Family. They bought BPI a large competitor last year



and have renamed that ACCPAC BPI Accounting. Their original ACCPAC product was bumped up to be ACCPAC Plus and they brought in BPI's low end product BPI Entry Series revamped as ACCPAC Easy to compete with Bedford and DAC Easy. CA offers an "Investment Protection Program" where some portion of what you have paid goes towards your next higher purchase. In addition, they provide a Data Transfer module to aid in moving your data from a lower level product on up to the more expensive products.

If You Can't Beat Them, Sell an Add-in

Other Computer Associates products include SuperCalc 4 spreadsheet which despite rave reviews still doesn't sell as well as Lotus 1-2-3. Facing this market reality well, they have developed products to make money off Lotus, with their add-in products: Silverado (a relational database add in), The Spreadsheet Auditor, Macro Analyzer, Cell Noter and Compress. Most of these products also work with SuperCalc 4.

Current Projects

The Vancouver office of Computer Associates has been busy in the last year, having developed a U.K. version of their ACCPAC Plus, and French language version of SuperProject Plus and SuperCalc 4 for the Quebec market. Just completed is an OS/2 version of ACCPAC Plus. Upcoming projects include revising the Windowing System Manager and the Network Activator for ACCPAC Plus.

Computer Associates 1770 Burrard St., Vancouver V6J 3G7
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Pradel Information Systems

A French dBase?

Pradel Information Systems is another Vancouver software company which has done well in marketing their products to the U.S. market. The company was begun in 1987 by Phillippe Pradel who had recently immigrated from France. In France he had worked extensively with a French database called Multilog. Multilog has a 35% market share in France outselling Ashton Tate's dBase III+. He saw the potential of the product outside of France, where it had yet to be marketed effectively.

From Humble Beginnings

Pradel Information Systems rented a small 150 square foot office and began to market the product to local companies. The challenge of introducing a new product to a market dominated by industry giant Ashton Tate did not slow him down. Rather than using the traditional channels, Pradel and company went to work implementing applications to demonstrate the products viability. Because of the sophistication and rapid development time of Multilog, their initial installations were quick and smooth, and the company was off and running. They currently occupy a half floor of offices in a downtown tower with projections for more to come. Multilog keeps adding territory to their distribution rights. Starting with B.C., Pradel was given the Northwest U.S., then California and most recently, they have signed distributors in New York, Connecticut and New Jersey.

With a Solid Foundation

All Pradel's hard work would be in vain if Multilog were not such a good product. Fortunately, Multilog is a strong product in the 4th Generation Language - relational database market. Multilog runs on PC and MS-DOS, Novell and NETB compatible LAN's. OS/2 and UNIX versions are scheduled for early 89. The product is sold either in a full development package called MULTIGEN or as run time versions called MULTIRUN. Pradel has converted from French a number of different applications for the MULTIRUN program including small business applications.

4th GL

Multilog's claim to fame in the crowded relational database market are a fast execution speed, quick development time, an extensive library of already developed applications and some strong marketing muscle from the well established French company. Multilog a pioneer in 4th Generation Languages was established in France in 1981 and is into its fourth major release of the product. This compares favourably with most 4GL's on the market which are less than two years old.

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The program boasts fast access speed for database searches. According to Phillippe Pradel, a 1,000 records can be randomly read from a 10,000 record file in 25 seconds. The entire file can be read in 5 minutes.

Multilog gives the application developer complete control of how the screen will look. Providing a sophisticated design tool to developing attractive and functional entry screens and record reports.

15 Lines in Multilog = 300 lines in dBase

Another asset of Multilog is that in many cases one word is enough to describe an entire program activity. This speeds program development. The difference can be 15 lines of Multilog code to 300 lines of dBase code or 3 lines of Multilog to 15 lines of PC/FOCUS instructions.

Because of a consistent set of command menus, Multilog has no command mode with difficult syntaxes to memorize as in R: Base System V or dBase III. This also means that Multilog's manuals can be concise and simple instead of imposing. Learning the program is that much faster and easier.

USER COMMANDS	DEVELOPMENT
ENTRY	Direct file data entry
QUERY	Data base query
TEXT	Text library search file
SYSTEM	Operating system commands
IMPORT	Input to the Data Base
OUTPUT	Output from the Data Base
RESTORE	Restore a file
SAMPLE	Simulation management
OPER	Edit the operators list
STAT	File status
SWATCH	Open batch processing
PRINT	Temporary printer change
	Library directory
	Applications directory
	Sheet directory
	File directory
	Screen directory
	Source directory
	System command directory
	Library analysis printout
	Reset a file to zero
	Restructure a file
	Screen configuration
	File definition
	Screen definition
	Programming

Everyman's Database?

Although Multilog appears to be a software developer's dream tool, it can also be used by individuals with a minimum of development experience. This ease of use, coupled with the existing library of Multilog programs in a wide variety of areas make it a good choice as for the individual computer user as well. The full MULTIGEN development package goes for about \$850 Canadian - \$700 U.S.

Minitel Connections

Another area which Pradel is test marketing is Multilog's strength in connecting to and generating videotex applications. Multilog has been used to generate applications on France's famous Minitel videotex system. Pradel is experimenting with applications of this technology for the North American market

Pradel Information Systems Inc. 505-1281 W. Georgia St.
Vancouver V6E 3J7 (604) 681-8100. or Seattle (206) 624-2139

Folkstone Design

Folkstone Design is a B.C. company which has found ways to effectively deal with distance from markets. The Sunshine coast forms the backdrop to the software development and publishing activities of Folkstone Design Inc., located near Gibsons in Grantham's Landing. Primarily a publisher of software for the Apple Macintosh family of computers, Folkstone Design also provides training and consulting services both to professional Macintosh users, and companies interested in developing commercial software.

Synergy of Products and Services

Scott Bleackley, a partner in Folkstone Design, points out that the mix of training, consulting, development and publishing is part of Folkstone's strength because each activity both draws on and supports the other activities. For example, training provides first hand insight into how people respond to a variety of software and to various tutorial materials. This information helps Folkstone both improve their course offerings but also indicates where improvements can be made in Folkstone's own software design and manuals. Of course, this knowledge contributes to Folkstone's consulting skills. As a software developer and publisher, Folkstone Design maintains research in market positioning, and software design techniques and tools. This awareness adds breadth and depth to Folkstone's course offerings and consulting services.

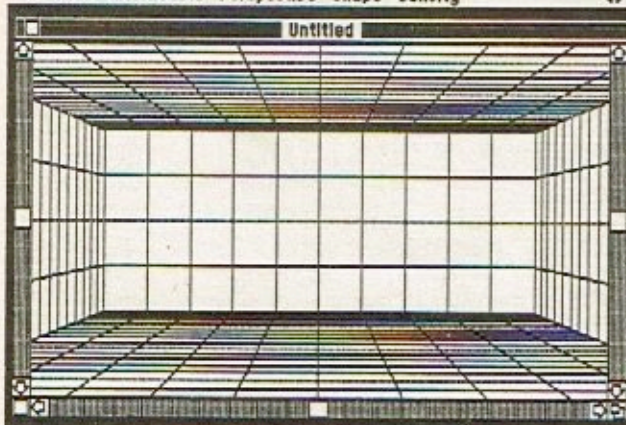
Joint Ventures Planned

Currently Folkstone Design is assembling a number of projects which will result in a variety of new lines of software. The characteristics of these new ventures is that they will result from strategic partnerships with major players in non-software industries. Relatively large amounts of subject-specific knowledge will be incorporated into these products.

GridMaker

Folkstone Design now serves the design market place on the Apple Macintosh with a product called GridMaker: perspective grid construction set. GridMaker creates three dimensional perspective grids which can be used within any of the two dimensional drawing packages (such as MacDraw, MacDraft, CricketDraw) as a framework for creating a three dimensional drawing. The idea is to get the right perspective first by dimensioning and rotating a grid within GridMaker and then use the resulting grid as a framework for drawing with the usual two dimensional drawing tools. A variety of grid formats are available include a plane, hidden line box, corner, and the room.

File Edit Rotate Perspective Shape Density



Who Buys Gridmaker?

The design market, for Folkstone, includes anybody from artists to engineers who perceive their tasks as primarily creative. Bleackley says that there are many designers who find the traditional engineering approach to CAD inappropriate for the creative and presentation aspects of their design work. This market place falls between Desktop Publishing and Desktop Engineering. The market for software which supports the designer directly is central and is growing. Customers using GridMaker include major newspaper chains, advertising agencies, architects, graphic designers, and several major aircraft

manufacturers.

Folkstone Speaks Small talk

Among the technologies that Folkstone Design uses to develop new products are object oriented languages such as Smalltalk, and emerging technologies such as CD-ROM. An active player in the development of pivotal technologies, Bleackley is now the senior editor of Hoopla!: a journal for object oriented programming that focuses on Smalltalk.

Bleackley says about their location on the SunShine Coast, "There is 30 percent less rain and the amenities are good. The area boasts a strong base of writers and other creative people that will be key to the development of knowledge-based products. In addition to easy access to Vancouver, the SunShine Coast is a good community and a great place to live."

GridMaker: perspective grid construction set
price \$69. Available directly from Folkstone Design Inc.
PageMaker: Folkstone Design Inc. 986-9060 or 886-4502
Box 44 Grantham's Landing B.C. V0N 1X0
Hoopla! (quarterly)
is available by subscription by writing to:
P.O. Box 1565, Everett, WA 98206-1565 USA

CygnusSoft

Cygnus is a young Vancouver company which has developed a text editor which some consider to be the ultimate for the Commodore Amiga. The company is owned by its two main programmers Bruce Dawson and Steve LaRocque.

Amiga: The Computer of Choice

They chose the Amiga two months before its release because they felt it was the best machine on the market at the time. The multi-tasking abilities were one factor in their decision.

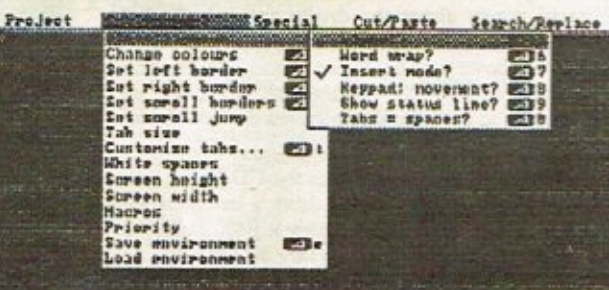
The initial focus was to be 3-D videogames but in the process of learning to program the new machine, they developed other interests. Eventually they dropped the idea of a game as being out of their range. They had to learn the C programming language at the same time as well as time sharing on one computer. They practiced their skills by re-creating games from other computer systems such as Othello.

Do Nothing Program

After 6 months of development, their first released program was a Mandelbrot program which draws random fractal images. This they released as shareware which was just beginning to make its emergence on the Amiga scene. When they realized how many people were not sending in their payment, they switched to distributing a stripped down version of the program with users who wanted the full version sending in payment. To date they have sold something on the order of 300 programs at \$15 US each. As Bruce Dawson says "Not bad for a program that does not do anything useful!"

Text Editor

Their proficiency at programming had increased from this experience such that their next project CygnusEd, a text editor, (a code driven word processor often used in conjunction with programming or telecommunications) took only 3 and a half months to develop. This was test marketed and very well received by local Amiga users. Some new requested features were added. The company began marketing the program in earnest by the stripped down demo method through an Amiga shareware distribution channel called Fred Fish's Disks. They have not been too pleased with the returns to date, but are in the process of negotiating a contract with a major Amiga-oriented company which would do world wide marketing for them.



Don't Quit Your Day Job Yet

Both partners still have to earn their major source of revenue in outside jobs. Steve LaRocque works as a programmer on a large VAX network for a large company and Bruce Dawson works on Amigas for the local software development house Accolade. They are planning more Amiga products, that will "blow the Amiga community away". They feel their choice of computers, the Commodore Amiga is a good one, and see the market as an excellent one for new companies. Steve LaRocque concludes: "There are still a lot of things that haven't been done on the Amiga, which leaves many opportunities for new programmers to take advantage of... More and more large companies are taking an interest in the Amiga and your opportunity for breaking new ground won't be around long."

By Dave Allen Amiga computer consultant 270-0064



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The 1988 Microsoft CD-ROM Conference The Industry That Flew Before it Could Walk



Two versions of Bowker's Books in Print

This, the 3rd annual Seattle CD-ROM Conference is to the CD-ROM industry as the Las Vegas COMDEX is to the electronics world: a conference to gauge the state of the technology. Like Las Vegas one must ignore the hype and overlook the rhetoric.

The previous two conferences reflected the nature of a technology that flew before it could walk. There were many sessions with little substance and numerous announcements of far-out (and far-off) products. But evident too were strong positions and strategic decisions being made by industry leaders like Philips, DuPont, Sony, DEC, RCA, Microsoft and Lotus. Backstage the real work and the real progress was being made.

Microsoft's Involvement

Microsoft became involved in CD-ROM when they purchased a small CD software company in 1985. Less than a year later they organized the first Seattle conference and while expecting only 400 attendees they were swamped when over 1000 wanted to attend. At the conference they demonstrated the technology's capabilities with a "multi-media encyclopedia", a demonstration disk containing data, sound and images. For example, the disk had not only the events leading up to Kennedy's assassination, but it also showed scenes and played audio tracks about the events. It was a preview of what future CD products might look like. The second conference saw the introduction of their first CD-ROM product, the Microsoft Bookshelf. This year Microsoft introduced two more CD-ROM products: The Small Business Consultant and a Statistics CD-ROM.

Less Hype More Substance

The tone at this year's conference was different with less hype and more substance. Of prime importance to the industry was the acceptance by the International Standards Organization of a CD-ROM disk format standard. Initially put forward by an industry committee known as The High Sierra Group, the ISO 9660 standard defines volume and file attributes in such a way as to allow the disk to be interchangeable between different systems.

New Standards - More Buzz Words to Know

On the operating system side, Microsoft announced an upgrade to its MS-DOS CD-ROM extensions (V 2.0) to conform to the new ISO standard. This software provides for standard device driver specifications for the numerous CD-ROM drives on the market as well as for DOS additions to allow the CD-ROM to appear as a large (up to 552 megabytes) disk drive. This software is licensed to CD-ROM drive manufacturers and are available through them, not directly from Microsoft. This means that CD-ROM publishers who conform to ISO 9660 need only provide their customers with a CD-ROM disk. Their software can also reside on the CD-ROM. They can now let Microsoft and CD-ROM drive manufacturers like Hitachi worry about the driver software and the connection to the operating system. They can also now create one disk for several target machines. Users, however, should not expect instant results. There are now over two hundred CD-ROM publications and it will take time for the electronic publishers to accept and implement the new format.

Apple and Atari Announce Products

Atari and Apple both announced their entry into the CD-ROM world with CD-ROM products. The Apple CD-ROM disk drive is based on Sony technology with a SCSI interface and incorporates a 64K buffer for improved performance. Although due to start shipping by May, the new Apple drive will not support ISO 9660 formatted disks until mid-summer.

HP and a Canadian Connection

Hewlett Packard demonstrated their new CD-ROM creation. Intended to assist their HP 3000 minicomputer customers, they have placed their whole library of reference manuals, technical notes and service documents on the CD-ROM. Eliminated is the hassle of manual and bulletin updates. Searching for information is now reduced to quick access into the database. The actual search and retrieval software is from a Canadian company, Fulcrum Technologies, to which H.P. added a user interface to Microsoft Windows.

God on CD-ROM

The popular PC-SIG CD-ROM is a disk containing a library of public domain programs. The newest version now has the equivalent of 1000 floppy disks, well over 20,000 programs on a single CD-ROM disk. Also

Peter Turner P.Eng. is President of Optical Storage Systems Inc., a Vancouver company specializing in CD-ROM technology. 876-3838. #300 Seven West Seventh Ave. Vancouver V5Y 1L4

announced at the conference was a Bible reference CD-ROM containing 10 Bible versions and 21 Bible reference works.

The Health and Safety CD-ROM

Is the CD-ROM going to affect the average user? You may already be getting the benefits of CD-ROM applications, without even knowing it. An excellent example of a true end-user CD-ROM is the Health and Safety database supplied by the Canadian Centre for Occupational Health and Safety (CCOHS). They maintain a 2 gigabyte data base on hazardous materials and chemical information and are supplying the information on CD-ROM (CCINFO disk). Quarterly subscription are \$114 per year. The emergency response centre of the Vancouver fire department has installed the system since they receive on the average 14 serious calls per year to deal with hazardous material. Their CD-ROM gives them immediate access to information on chemicals including how to deal with spills and a description of the hazard involved.

Chemical Workers Beware

Is CCINFOdisk useful only to fire fighters? In fact, it is destined to become a common resource. Does your organization handle chemicals or potentially dangerous goods? If so you will be affected by a new federal law known as WHMIS: Workplace Hazardous Material Information Systems. Penalties for non-compliance are stiff and include jail terms as well as fines. Basically the onus is on the employer to provide training and to make available specific information on all hazardous material an employee must deal with. The law even specifies the acceptable source for this information: either the data sheet from the manufacturer or information supplied by CCOHS. This data must be readily available to the employees on the job.

More CD-ROM News

Hitachi have announced support for the PS/2 microchannel with a new interface. Currently CD-ROM drives do not run on the IBM model 50 and up. The new interface will provide that support. However our experience has shown that new solutions must be tried and tested. Existing CD-ROM publications may not work with the new interfaces. In several cases this was only after upgrading driver software. The new ISO 9660 standard and Microsoft extensions will go a long way toward eliminating such problems.

APPLE BREAKS ICE WITH CD-ROM DRIVE

SEATTLE, Wa. (NB) — Attendance at this third CD-ROM conference was 80% higher than last year's with some 600 attending. While the mood was upbeat, the reality is still that only an estimated 100,000 CD-ROM drives have been sold since 1985. Nevertheless, predictions were rampant that 1988 will be the year of CD-ROM. Said Apple CEO John Sculley, "It took more than 1,000 years for paper to be used by the Western world after it was invented by the Chinese. If you consider how long it took for paper to become popular, we're not doing so bad."

A major stumbling block to acceptance of CD-ROM, however, is the price. With most drives in the \$1,000 range, CD-ROM is not expected to win the masses until prices of drives drop to \$300 or so.

But CD-ROM technology's biggest boost in credibility came as Apple Computer became the first major computer manufacturer to offer a CD-ROM drive through retail stores that both retrieves data and plays commercial audio compact disks. Apple expects its endorsement of this high-capacity data storage technology will finally, after years of sluggish sales, allow it to catch fire with the public. The announcement, made at the opening of Microsoft CD-ROM conference, was accompanied by news that some 11 manufacturers, aided by Apple's third party development effort, have already created CD-ROM disk-based information for the AppleCD SC drive.

One CD-ROM disk, capable of storing up to 550 megabytes of information, or as much as can be stored on 700 Macintosh 800k disks. That enormous capacity has appealed to a range of vendors from encyclopedia publishers to compilers of public domain programs. (See below for complete list.)

The drive, available in May for \$1,199, works with the Macintosh, the Apple IIe, and IIgs. It can also be shared on a network connected to the AppleShare File Server. Apple has designed the drive to be compatible with the International Standards Organization's standard file format commonly known as "High Sierra."

Here's a list of products announced designed to run on the CD SC drive:

- MEDLINE biomedical literature 3,000 + journals.
- Books in Print Plus 770,000 items accessed by 17 categories
- Books in Print with Book Reviews Plus 1 year \$1,010.
- The Americana Series HyperCard U.S. historical 1800-1850
- The Electronic Encyclopedia GROlier hypertext functions
- Electronic Map Cabinet 600 MB US maps - \$199.95
- M-W DICTIONARY recorded pronunciations \$199.95.
- MULTI-AD SERVICE DTP art library EPSE, PICT \$149.95
- Sound Designer 2 volumes of sound effects \$595.
- Apple II series software in the public domain

Among the significant non-announcements was Microsoft's failure to announce a version of its CD-ROM disk Bookshelf for the Apple drive.

Local Area Networks: An Introduction

1987: The Year of the LAN

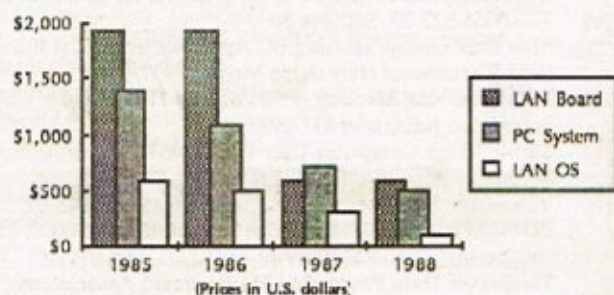
1987 was the year of the LAN. Great. Not only are you unsure of just what a LAN is, but now they've made a year out of it! In this and upcoming issues, we will take a look at LAN's, what they are, what they can and cannot do, and where they are heading. Relax, this won't hurt a bit.

A Local Area Network (LAN) is simply a method of connecting 2 or more intelligent computers together so that each computer "workstation" may communicate electronically with the others. When properly done, the resulting network of workstations is far more powerful and flexible than the unconnected computers would ever be. The discussion here focusses on IBM PC/XT/AT or PS/2 microcomputers or compatibles.

Land of LAN's

The explosive growth in sales of micro computers fueled the initial development of LAN's in the late 1970's. Hard disks and fast printers were

Prices of LAN's: On The Decline



very expensive, creating a need for products which would allow these devices to be shared by several workstations.

Multiple word processing stations could now use the same high quality printer. LAN's allowed sharing of hard disk storage space, by dividing the total available disk space into fixed size sections, each dedicated to one workstation. Generally, a special section was designated as "shared", but only for reading programs or data, not writing.

Early LAN's suffered from their inability to adequately share information - allowing multiple stations to simultaneously access the same data (such as a Customer or Inventory file). This capability was limited to the world of mini's and mainframes, they had been doing it for years, and the computer owners paid quite handsomely for the privilege.

Along came NOVELL. An unknown company in 1981, Novell announced a "File Server" based LAN - data files on the hard disk could be accessed simultaneously, with proper record locking protection, by all workstations on the network. Novell proposed an operating system, called "Netware", specifically optimized for hard disk access performance, a "nice guy" arbitration philosophy for multiple processes competing for the file server resources, and compatible with a variety of LAN communication cards from various suppliers.

"LAN's are quickly becoming the work group system of choice..." - Amy Wohl, Office Automation Consultant

BabyLAN

In a world where every manufacturer was building their LAN based on proprietary hardware, software, communications, and some variation of a "time slicing" formula for enforced arbitration (thus firmly locking customers to their future) this new entry caused much amusement all around.

By 1984 the laughter had died down as the other manufacturers struggled to retain some kind of position in a market dominated by Novell, with significant portions owned by IBM, Corvus, and 3Com. Novell maintained its lead in performance, compatibility, and expandability. As higher performance network interface cards (which connected the workstations) became available, Novell simply added a new software "driver" program which allowed Netware to run on the new card. Bigger, faster hard disks and file servers allowed Netware to perform even better.

Netware Rules

Netware in 1987 was the de-facto LAN standard for micro computers. LAN's won greater acceptance with large corporations, where performance, capacity and connectivity with other computer systems were concerns. Furthermore, the introduction of "clones" caused spectacular declines in the prices of all LAN components, making them even more attractive to all buyers. The hardware independent nature of Netware allowed customers to choose network components based on capability rather than brand name. In addition, Netware was a very stable and mature product - the 9th major release began shipping in the first quarter of 1988.

So What Year Is This?

Current LAN vendors fall into roughly 3 camps - serial port based (also

known as "zero slot"), file server based DOS networks (Novell Netware, IBM Token Ring, 3COM Ethernet, Banyan Vines), and yet to be shipped products based on the new OS/2 operating system (Novell, Microsoft-3Com, IBM).

Zero Slot LAN's

Most computers have a "built in" serial communication port (generally included with memory or video cards) commonly used for access to other external computer systems via a telephone "modem". However, they can be directly connected to other local computers and used to transfer data around the network. Since additional network interface cards do not have to be purchased and installed, this type of LAN is nicknamed "Zero Slot", and is the least expensive alternative.

Poor Man's Networking

Zero Slot LAN performance is limited by the speed of the serial port which is quite slow relative to almost all LAN interface cards. The maximum distance allowed between stations is typically under 100 feet. Installation tends to be simple and straightforward since the network consists primarily of programs which must be run at each connected station to perform the serial port communication tasks.

Allowing users to share devices such as printers is a natural for these LAN's. Their ability to allow properly controlled shared access to data files varies wildly. Sharing has improved substantially since the release of Microsoft's 3.x version of DOS, which defines a minimal set of rules to be followed in order to allow multiple access to the same data file. A majority of software programs designed for multi-user use will support the DOS 3.x standard and will run quite happily if the LAN vendor has implemented the 3.x rules completely.

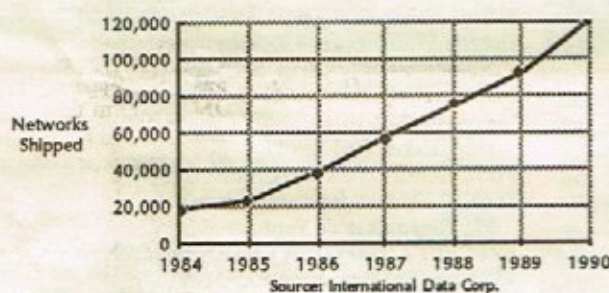
But Does It Work?

Unfortunately, despite claims to the contrary, 100% compatibility does not always happen. You will pay a very high price when your data becomes corrupted. If you are considering a Zero Slot LAN, obtain (a) reference site(s) which run the same software programs you wish to. Contact them to determine if the software runs reliably. Contact the manufacturer of the software to find out if they approve the LAN for multi-user use of their package.

File Server Based LAN's

File Server based LAN's consist of one or more primary computers, called "servers" which are connected to the workstations. Servers may be "dedicated" meaning that they perform only Network specific tasks, or "non-dedicated" in which case the server may also be used as a

LAN Market Growth



workstation. Individual LAN's may be linked together creating "internetworks" and they may be linked to mini or mainframe computers via "gateways". They may span floors, buildings, cities, and continents.

Lotus LAN's

OS/2 based LAN's are still mostly literature. More on them in an article discussing the future of LAN's.

A Tangled Web

There are a wide variety of methods used to connect the stations on a network, ranging from twisted pair (like telephone wire), coaxial cable (like cable TV), special cables, fibre optic, infra-red, microwave, and radio frequency. Various arrangements for physically wiring the stations are also used - the most common are an individual wire to each station from the server (Star), a single wire running from the server to each station (Linear Bus), or a circle of wire connecting each station (Ring).

Miss LAN Manners

Network Interface cards each speak a special language called a "protocol". Only cards which use the same language may communicate with each other. Some popular protocols used today are Arcnet, Ethernet, G-Net and Token Ring.

Protocols, cable type, and wiring methods are closely related. The choice of a particular method is based on a mix of price, performance, distance, and environment.

More Next Issue

Mike Wolfe is a partner with Softrak Systems Inc., responsible for the sale, installation, and support of Novell LAN's. He also teaches Introduction to LAN's through the VSB

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DESKTOP PUBLISHING

ADVANTAGE COMPUTERS 4324 Kingsway, Burnaby 430-3113 (Paolo Bertola)
call for April Schedule on Macintosh DTP courses

BEHNSEN GRAPHIC SUPPLIES
1016 Richards St, Vancouver, 681-7351

Introduction to Desktop Publishing Bruce Wright from
Business Pictures and Words 11:30-1PM Sat Apr 9 Free

BURNABY CAREER CENTRE Call 437-5711

DTP & Graphic Design (PC Pagemaker, Gcm Draw etc.)

COAST COMPUTERS 736-5039 908-W 7th Vancouver

Adventures with Ventura 2 hour overview 7-9 PM BC Club,
Enterprise Centre Tue Apr 22 \$35

Pagemaker vs Ventura BC Club, Enterprise Centre Mon Apr
21 7-9 PM \$35

COMPUTERLAND (V = 1035 W Pender Vancouver; B = 214 4501 North Rd Burnaby; R = 123-4940 No. 3 Rd Richmond) 683-6152

Intro Macintosh Pagemaker Apr 12 V \$180

Macintosh Pagemaker Interm. Apr 14 V \$180

DESKTOP PUBLISHING TRAINING CENTRE 400 1190
Melville St., 681-669-9800, Mary Jane Devine Call for April
Schedule

Ventura, Pagemaker and Spellbinder

EXPOSURE 88 Graphic design, illustration & photography,
Hyatt Regency, David Counsell 687-6833 Fri Apr 15-17

DOPPLER TRAINING CENTRE
101 W. 5th, Vancouver 875-0261

Ventura Apr 21 & 22 \$350

Pagemaker Apr 28 & 29 \$350

FIALA, BONNER & ASSOCIATES 810-1112 W Pender St.
Vancouver, 684-1022 Call for start dates

Ventura \$250

FREELANCE EDITORS' ASSOCIATION OF CANADA 1148
Hornby St Vancouver 430-6605

Newsletter Workshop Sat Apr 9 10-4 pm \$55

MICROAGE LEARNING CENTRE 3609 W 16th Ave,
Vancouver 222-1010

Pagemaker Wed Apr 20 \$175

PBSC COMPUTER TRAINING CENTRE 1350-1140 W. Pender
St 689-7272 (call for starting dates)

PC Pagemaker or Ventura \$175

PRECEPT COMPUTER LEARNING CENTRE
735 Clark Dr, Vancouver, 255-3198

Using Ventura Apr 7/8 8:30-12:30 pm, \$190

Intro to Desktop Publishing Apr 11/12 1:30-4:30 PM \$130

Pagemaker Apr 14-15 8:30-12:30 pm \$190

SIMON FRASER UNIVERSITY Downtown 687-4255

The Editor as Manager: Magazines 1 even & 2 days Apr
29-May1 \$225

DTP: An Advanced Workshop in Ventura Stephen Osborne
1 day Apr 8 \$160

UBC 222-5222

PostScript Programming for DTP Rm 306 Comp Science
Bldg 9:30-12 AM 3 Sat Apr 9-23 \$185

VANCOUVER ELECTRONIC PUBLISHING ASSOC. BC
Club, 750 Pacific Blvd S., Vancouver, 731-5887

"IBM's Electronic Publication Directions" Free

7 pm Mon. April 4

Mac Pagemaker SIG Local Clip Art

Nelson Reust 683-2341 Wed Apr 13 Free

VANCOUVER COMMUNITY COLLEGE 875-8200

Using Ventura Apr 19- May 10 \$150

VANCOUVER DESKTOP PUBLISHING CENTRE Ltd
1150 Homer St 681-9161 Steve Osborne, Roedy Green

Ventura Junior Level full day course Apr 5, 8, 19 \$159

Ventura Senior Level 2 evenings Apr 12, 14 \$159

Desktop Design Clinics Apr 12 1-4 pm \$69

EXPERT SYSTEMS

BCIT 3700 Willingdon Ave, Burnaby. Full Time Registration
432-8419, Part Time: 434-1610

Applied AI: Expert Systems 12 Wks Wed Apr 13 \$167

GENERAL

Good Friday April 1

First Day of Passover April 2

Easter Sunday April 4

Easter Monday April 4

Income Tax Returns Due April 30

Amiga User Group Meeting PaNorAma, Sunset Community
Centre (404 E. 51st at Fraser) Dave Allen 270-0064.

General Meeting Wed Apr 13 7:30 PM

Workshop: Tue Apr 5 Sunset Commun Centre

Programmers: Wed Apr 5 BCIT Rm 129A 7 PM

Apple II User Group Meeting BC Apple Society, Burnaby
Rugby Club, Kiyo Masuda 437-9935

UNIX An In-Depth Approach 3 days April 18, 19 & 20
Meridian Hotel 8:30-4:30 PM -Individual terminals, includes
breakfast & lunch. CLARENDON DATEX 926-UNIX George
Pajari \$895

Computer Expo Toronto Int. Centre Apr 14, 15 & 16 \$6

Computer Swap Meet Computer Fair Association, Sunset
Community Assoc. (Fraser & 51st) call for tables Dave Allen
270-0064 \$25-35. Sat, Apr 30 \$2

Mac User Group Meeting BC Apple Society, WCB Building,
6951 Westminster Hwy (Kiyo Masuda) 437-9935.

Mainland Mac Meeting 7:30 PM Rm 115 Kwantlen College,
Surrey, Les Robertson 437-9935

Maple Ridge Computer User Group 467-2647 M.R. Sr.
Secondary School 7:30 PM, Free

Vancouver PC Users Group, Topic: COMPUTERS IN
EDUCATION H.R. MacMillan Planetarium 438-6009, \$20/year
membership, 7:30 PM Thu Apr 14

Vancouver Data Processing Management Association
873-3411 (ext 3998) Gail Nicholls Robson Square Media Centre
(Theatre)

UNDERSTANDING COMPUTER LEASING:
A 3RD PARTY PERSPECTIVE Thu Apr 7, 1-4 PM \$50

UBC 222-5222

EFFECTIVE PROJECT PLANNING:
Hands on workshop Apr 14-15 9-5 pm \$375

CREATIVE COMPUTING FOR SENIORS
6 Wed Apr 6- May 11, 9:30-11:30 AM \$150

USING COMPUTERS IN THE PHYSICIAN'S OFFICE
Apr 21-22 9-4 pm \$285

INTEGRATED SOFTWARE

BCIT 3700 Willingdon Ave, Burnaby. Full Time Registration
432-8419, Part Time: 434-1610

Framework II Level I 12 Wks Tue Apr 12 \$185

DRAKE PRODUCTIVITY CENTRE Suite 100 - 1111 Melville
St., Vancouver 669-8789

Symphony Spreadsheet & Graphics Apr 11 \$175

Symphony Database Wed Apr 20 \$175

PBSC COMPUTER TRAINING CENTRE 1350-1140 W. Pender
St 689-7272 (call for starting dates)

Framework II \$175

Symphony \$175

PERSONAL COMPUTER TRAINING INSTITUTE
200-247 Abbot St Van 682-5448 Call for schedule

Symphony \$150

Framework II \$150

VANCOUVER SOFTWARE CENTRE
300-1190 Melville St., Shirley Friesen-Nicol 669-9800

Introduction to FRAMEWORK II \$180

9-5 PM Fri Apr 8

FRAMEWORK II Intermediate \$180

9-5 PM Wed Apr 20

LOCAL AREA NETWORKS

DATA PROCESSING MANAGEMENT ASSOC.,
Stanley Park Pavilion, Helen Rutan 435-3272

DRAKE PRODUCTIVITY CENTRE Suite 100 - 1111 Melville
St., Vancouver 669-8789

Novell System Manager Course \$415

2 day course April 5 & 6

VANCOUVER NETWORK USER GROUP
Mary Jane Woods 275-2829.

Local Area Network User Group

PROGRAMMING & DEVELOPMENT

PROGRAMMING & DEVELOPMENT
BCIT 3700 Willingdon Ave, Burnaby.
Full Time Registration 432-8419, Part Time: 434-1610

Assembler L.I (IBM Mainframe) 12 Wks Tue Apr 12, Wed
Apr 13, 6 Wks: Sun Apr 17 \$167

Assembler Level 3 (Mainframe) 12 Wks Apr 12 \$167

Assembler (IBM PC) Level I 12 Wks Apr 15 \$167

Assembler (IBM PC) Level II 12 Wks Apr 14 \$185

BASIC (IBM PC) 12 Wks Apr 12 \$167

BASIC-Level I (Mini) 12 Wks Apr 14 \$139

BASIC-Level II (Mini) 12 Wks Apr 13 \$139

C Level I 12 Wks Apr 13 \$139

C Level II 12 Wks Thu Apr 14 \$167

Calendar

Cobol-Level I 12 Wks, Tue Apr 12	\$139
Cobol-Level II 12 Wks, TWed Apr 13	\$139
FOCUS 12 Wks Sat Apr 16	\$167
Fortran IV Level 2 12 Wks Wed Apr 13	\$139
Fortran IV Level 3 12 Wks Thu Apr 14	\$139
PASCAL 12 Wks, Mon Apr 11	\$167
PL/I Level II 12 Wks Thu Apr 14	\$139
POWERHOUSE (4GL) L.2 12 Wks Apr 12	\$167
COMPUTER TRADES:	
Microcomputer Interfacing Mon-Fri Apr 25-29	\$230
HI-TECH PRESS Discovery Park, 3700 Gilmore Way, Burnaby, Joanne Woodward 430-3533	
Media Map 7:30 AM Wed Apr 13	\$10
PRECEPT COMPUTER LEARNING CENTRE	
735 Clark Dr, Vancouver, 255-3198	
Intro to Pascal Apr 12/14/19/21 7-9 PM,	\$140
PRIMA TRAINING CENTRE 207-3900 E Hastings, Burnaby, 294-4567 (call for start dates)	
Adv. Turbo Pascal 4 Wks 7-10 PM	\$150
PROLOG 4 Wks 7-10 PM	\$150
Adv. Turbo C 4 Wks 7-10 PM	\$150

SPREADSHEETS

ACCESS CENTRE Lonsdale Quay (N. Van Seabus Entrance) 984-4671	
Lotus 123 Start anytime, computer based training-self paced tutorials (average 20 hrs, no max.)	\$140
ADVANTAGE COMPUTERS 4324 Kingsway, Burnaby 430-3113 (Paolo Bertoia) call for Schedule	
Macintosh Spreadsheet Courses	
BCIT 3700 Willingdon Ave, Burnaby. Full Time Registration 432-8419, Part Time: 434-1610	
Lotus 123 12 Wks Thu Apr 14	\$185
Business Applications (123) Apr 11	\$167
COMPUTERLAND (V = 1035 W Pender Vancouver; B = 214 4501 North Rd Burnaby; R = 123-4940 No. 3 Rd Richmond) 683-6152	
Lotus 123 Intro Apr 5 R, 12 V, 20 B, 25 V	\$180
Lotus 123 Interm Apr 11 V, Apr 29 V	\$180
Lotus 123 Adv. Apr 21 V	\$180
Excel Intro (MAC) Apr 11, 28 V	\$180
Excel Intermediate (MAC) Apr 8 V	\$180
COMPUTER STATION	
2130 Burrard St, Vancouver, Pat Austin 732-8621	
Advanced Lotus 123 Thu Apr 28	\$175
Fast Track Lotus 123 Apr 13 & 14, 26 & 27	\$325
DOPPLER TRAINING CENTRE	
101 W. 5th, Vancouver 875-0261,	
Lotus 123 Level 1 Apr 12, 26	\$159
(students may take first day separately for \$175)	
DRAKE PRODUCTIVITY CENTRE Suite 100 - 1111 Melville St., Vancouver 669-8789	
Intro Lotus 123 1 day course Apr 8, 18 & 29	\$175
Lotus 123 Intermediate 1 day Fri Apr 15	\$175
FIALA, BONNER & ASSOCIATES 810-1112 W Pender St. Vancouver, 684-1022, call for start dates	
Lotus 123 Level 1	\$175
Lotus 123 Level 2	\$175
MICROAGE LEARNING CENTRE 3609 W 16th Ave, Vancouver 222-1010	
Lotus 123 Part I Fri Apr 8	\$175
Lotus 123 Part II Wed Apr 13	\$175
Lotus 123 Advanced Thu Apr 28	\$175
PBSC COMPUTER TRAINING CENTRE 1350-1140 W. Pender St 689-7272 (call for starting dates)	
Lotus 123	\$175
PERSONAL COMPUTER TRAINING INSTITUTE	
200-247 Abbot St Van. 682-5448 Call for schedule	
Lotus 123 for Beginners	\$150
Lotus 123 Macros	\$150
PRIMA TRAINING CENTRE 207-3900 E Hastings, 294-4567 call for start dates	
Lotus Macros 2 sessions, 7-10 PM,	\$75
Lotus Management & Graphs 2 sessions	\$75
VANCOUVER COMMUNITY COLLEGE 875-8200	
Intro to Lotus 123 Starting Apr 21, 23, 26	\$140
Intermediate Lotus Starting Apr 27	\$140
Advanced Lotus Starting Apr 28	\$140
VANCOUVER SOFTWARE CENTRE	
300-1190 Melville St., Shirley Friesen-Nicol 669-9800	
Intro to Lotus 123 9-5 PM Thu Apr 21	\$180

TELECOMMUNICATIONS

BCIT 3700 Willingdon Ave, Burnaby. Full Time Registration 432-8419, Part Time: 434-1610	
Data Communications Concepts - Level I	\$139
12 Wks Mon Apr 11	

Data Communications Concepts - Level II	
12 Wks Tue Apr 12	\$139
PBSC COMPUTER TRAINING CENTRE 1350-1140 W. Pender St 689-7272 (call for starting dates)	
Crosstalk	\$175
VANCOUVER DESKTOP PUBLISHING CENTRE Ltd	
1150 Homer St 681-9161, Stephen Osborne, Roedy Green	
Managing a Modem 10-4:30 Sat Apr 16	\$129

USING YOUR PC

ACCESS CENTRE Lonsdale Quay (N. Van Seabus Entrance) 984-4671	
Basic Operating Skills Start anytime, computer based training-self paced tutorials (average 12 hrs, no max.)	
BCIT 3700 Willingdon Ave, Burnaby. Full Time Registration 432-8419, Part Time: 434-1610	
Computing for the Timid 4 Wks April 11	\$65
Understanding DOS 6 Wks Burnaby: Apr 11, Coquitlam	\$85
Tues Apr 12	\$85
Intro to HP 3000 12 WEEKS: Burnaby Starts: Apr 11, 12, 13, 14 6 WEEKS: Apr 16	\$139
Intro to Apple II 12 Wks Tue Apr 12	\$167
Computers in Business 12 Wks Apr 11	\$139
Intro to IBM PC 12 Wks: Coquitlam: Apr 11, 13 6 Wks: Burnaby: Apr 16 Downtown Apr 16	\$167
COMPUTERLAND (V = 1035 W Pender Vancouver; B = 214 4501 North Rd Burnaby; R = 123-4940 No. 3 Rd Richmond) 683-6152	
Intro to Micros Apr 7 V	\$180
DOS Apr 4 V, Apr 13 R, Apr 20 V, Apr 28 B	\$180
Macintosh Basic Skills Apr 4, 20 V	\$180
COMPUTER STATION	
2130 Burrard St, Vancouver, Pat Austin 732-8621	
Intro to Micros & DOS, 1 Day course, Morning portion on DOS, can be taken separately for \$95. Apr 7, 21	\$160
DRAKE PRODUCTIVITY CENTRE Suite 100 - 1111 Melville St., Vancouver 669-8789	
All Day DOS Apr 14, 16, 26	\$125
Advanced DOS Apr 27	\$125
DOPPLER TRAINING CENTRE	
101 W. 5th, Vancouver 875-0261	
Intro to Micros & DOS, 1 Day course. Runs every Monday evening through April	\$138
FIALA, BONNER & ASSOCIATES 810-1112 W Pender St. Vancouver, 684-1022 call for starting dates	
Introduction to Computers	\$175
MICROAGE LEARNING CENTRE 3609 W 16th Ave, Vancouver 222-1010	
Intro to PCs/DOS Wed Apr 6	\$175
Advanced DOS Tue Apr 26	\$175
PBSC COMPUTER TRAINING CENTRE 1350-1140 W. Pender St 689-7272 (call for starting dates)	
Intro to Micros/ DOS/ Adv. DOS	\$175
PERSONAL COMPUTER TRAINING INSTITUTE	
200-247 Abbot St Van. 682-5448 Call for schedule	
Intro to IBM-PC and popular software	\$150
PRECEPT COMPUTER LEARNING CENTRE	
735 Clark Dr, Vancouver, 255-3198	
Hard Disk Organizational Skills	\$140
2 days Apr 11/12 1-5 PM,	
PRIMA TRAINING CENTRE 207-3900 E. Hastings, Vancouver, 294-4567 Call for start dates	
Using PC DOS 4 wks, 7-10 PM	\$150
Batch File Programming 1 day, 9-4 PM	\$75
Hard Disk Management 1 day, 9-4 PM	\$75
Using Memory - Resident Utilities	\$75
1 day, 9-4 PM	
VANCOUVER COMMUNITY COLLEGE 875-8200	
Intro to Computers Starts Apr 12, 15, 16, 18, 20, 21, 24	\$130
VANCOUVER SOFTWARE CENTRE	
300-1190 Melville St., Shirley Friesen-Nicol 669-9800	
DOS Orientation 9-5 PM Mon Apr 18	\$180
VANCOUVER DESKTOP PUBLISHING CENTRE Ltd	
1150 Homer St 681-9161, Stephen Osborne, Roedy Green	
Introduction MSDOS 2 Evenings Apr 13 & 15	\$119
Taking Command of MSDOS Evening Apr 18	\$69
Taking Command of MSDOS Daytime Apr 14	\$69
SuperCharging the Office PC Daytime Apr 7, 9	\$129
Under the Hood: Troubleshooting the Hardware	\$129
10-4:30 PM Apr 23	

WORD PROCESSING

ACCESS CENTRE Lonsdale Quay (N. Van Seabus Entrance) 984-4671	
Word Perfect, MS Word, Displaywrite, Multimate Start anytime, computer based training-self paced tutorials (average 20 hrs, no max.)	
BCIT 3700 Willingdon Ave, Burnaby. Full Time Registration	

432-8419, Part Time: 434-1610	
MS Word (PC & MAC) 6 Wks Apr 13	\$95
COMPUTERLAND (V = 1035 W Pender Vancouver; B = 214 4501 North Rd Burnaby; R = 123-4940 No. 3 Rd Richmond) 683-6152	
DisplayWrite Intro Apr 8 V, Apr 20 R	\$180
DisplayWrite Interm. Apr 27 B	\$180
MS Word Intro Apr 6 & 7 V, Apr 18 & 19 B	\$325
MS Word Interm Apr 11 & 12 B, Apr 27 & 28 V	\$325
Multimate Intro Apr 4 R, Apr 22 V	\$180
Multimate Interm Apr 26 V	\$180
WordPerfect Intro Apr 13 & 14 R, Apr 25 & 26 R	\$325
WordPerfect Interm Apr 4 B, Apr 19 R	\$180
Intro Word (MAC) Apr 6 V, Apr 19 V	\$180
Interm Word (MAC) Apr 14 V, Apr 29 V	\$180
COMPUTER STATION 2130 Burrard St, Vancouver, Pat Austin 732-8621 Call for start dates.	
Word Processing, WordPerfect, MS-Word, MultiMate or DisplayWrite 4, Intro or Advanced, 1 day course.	
Repeats Apr 8, 22	\$175
DOPPLER TRAINING CENTRE	
101 W. 5th, Vancouver, 875-0261	
MS-Word Level 1. Apr 7 Level 2 Apr 8	\$159
WordPerfect Level 1. Apr 14 Level 2 Apr 15	\$159
Multimate Apr 19	\$159
FIALA, BONNER & ASSOCIATES 810-1112 W Pender St. Vancouver, 684-1022 Call for start dates.	
Multimate Advantage L.1, Word L.1, WordPerfect L.1, WordPerfect L.2, Displaywrite 4 L.1, Wordstar 2000 L.1	
\$175	
DRAKE PRODUCTIVITY CENTRE Suite 100 - 1111 Melville St., Vancouver 669-8789	
MultiMate-Introduction Apr 5, 22	\$175
MultiMate-Intermediate Apr 18	\$175
WordPerfect-Introduction Apr 7, 19, 25	\$175
WordPerfect-Intermediate Apr 11, 19, 29	\$175
DisplayWrite 4-Introduction Apr 8, 27	\$175
DisplayWrite 4-Intermediate Apr 13	\$175
MS-Word-Introduction Apr 13	\$175
MS-Word-Intermediate Apr 21	\$175
FOLKSTONE DESIGNS, 986-8060	
Word on the Macintosh: Long Documents	
instructor: Linda Bleakley, Downtown Apr 20	
\$175	
MICROAGE LEARNING CENTRE 3609 W 16th Ave, Vancouver 222-1010	
DisplayWrite 4 Part I Fri Apr 15	\$175
DisplayWrite 4 Part II Fri Apr 29	\$175
MS Word Part I Tue Apr 5	\$175
MS Word Part II Thu Apr 14	\$175
Word Perfect Part I Mon Apr 11	\$175
Word Perfect Part II Thu Apr 21	\$175
PBSC COMPUTER TRAINING CENTRE 1350-1140 W. Pender St 689-7272 (call for starting dates)	
DisplayWrite 4, MS Word,	
Multimate, Samna Word, WordPerfect	\$175
PERSONAL COMPUTER TRAINING INSTITUTE	
200-247 Abbot St Van. 682-5448 Call for schedule	
Multi-Mate Advantage II	\$150
MS Word 4.0	\$150
Typing Tutor IV	\$75
PRECEPT COMPUTER LEARNING CENTRE	
735 Clark Dr, Vancouver, 255-3198	
Word Perfect Module 2 Apr 14/15 1-5 PM	\$140
PRIMA TRAINING CENTRE 207-3900 E Hastings, Burnaby, 294-4567 Call for start dates	
Using WordPerfect 7-10 PM	\$150
VANCOUVER COMMUNITY COLLEGE 875-8200	
Intro to WordPerfect Apr 17, 19, 22, 30	\$130
Intro to Multimate Apr 15	\$130
Using MS Word Apr 18/25 4 weeks	\$150
VANCOUVER SOFTWARE CENTRE 300-1190 Melville St, Shirley Friesen-Nicol 669-9800	
Intro Multimate 9-5 PM April 5, 23	
Even. Apr 25 & 26	\$180
Multimate Intermediate 9-5 PM Tue Apr 26	\$180
Intro WordPerfect 9-5 PM Wed Apr 6, 30	\$180
WordPerfect-Intermed 9-5 PM Wed Apr 27,	\$180
Intro MS Word 4 9-5 PM Tue Apr 7, 16, 22	\$180
MS Word 4 Intermediate 9-5 PM Apr 28	\$180

APRIL 1988

Sun	Mon	Tue	Wed	Thu	Fri	Sat
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3	4	5	6	7	8	9
10	11	12	13	14	15	16
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24	25	26	27	28	29	30

THE SHAREWARE SHELF

by Gord Simmonds

PC-File III+

"Software Should be powerful, easy to use, and affordable." The philosophy of Jim Button, one of the fathers of SHAREWARE. In 1981, working as an IBM Systems Engineer, Jim Button wrote a program for his church to mass produce mailing labels. This program developed into a small database program called "Easy File". He shared his program with friends and fellow workers, who were so impressed, they in turn, shared it with their friends. Soon there was a large group of supporters using "Easy File". To help defray costs, and to create a "users" mailing list to reach serious users to inform them of enhancements and revisions, Jim added a message in his program asking for a modest \$10 donation, only if they wished to be on his mailing list.

Andrew Fluegelman, author of PC-TALK, had just begun adding a similar request on his software, and he contacted Jim about coordinating their efforts. Jim renamed his program "PC-FILE", to compliment PC-Talk, and began requesting a \$25 donation to match Andrew's request. Thus the seeds of SHAREWARE were planted.

Buttonware

Jim founded Buttonware, Inc. of Bellevue, Washington in September 1982. The phenomenal success of PC-File forced him to quit IBM in 1984. Today, Jim has 18 employees, 8 programs, over 1,000 dealers worldwide, and revenues of \$2,250,000 for 1987. Jim has 500,000 registered users of PC-File, PC-Calc, PC-Type, PC-Dial, PC-Stylist, PC-Tickle, Baker's Dozen, and XD-Extended DOS in the United States, Canada, Africa, Europe, England, South Asia, Australia, and South America.

Jim Button, Buttonware, Inc., and the SHAREWARE concept, has been established as a respectable marketing method. "PC-File, my little part-time hobby database, has a devoted following of nearly a million users." Jim Button

PC-FILE III +, Version 2.0

requires 384K of memory and two double sided disk drives to run. Registered versions cost \$69 US and are available from Buttonware, Inc. or any of its authorized dealers. The cost of the trial shareware diskettes is dependent upon the particular vendor

Quotes from Happy Users

"It is downright refreshing to experience software that has been honed to a keen edge by an author that respects not only his own reputation but, more importantly, the needs of his customers as well. My poor IBM PC/1 has tripped and fallen over more inept software than it cares to remember. How can a database manager

priced at \$69.95 possibly achieve everything in the list of features contained under its banner "The Most Popular Database in the World"?"

"I am totally humble! After using PC-FILE+ for 30 minutes...."

an addiction set in; the addiction became a challenge: could this clever piece of software possibly handle a database managed by dBase III Plus (\$499), one that I had spent many hours tailoring to MY needs? It could and it did!" Curt Akin, Uptime Magazine December 1987.

The main purpose of a database manager is to provide a method of storing, manipulating, and retrieving the contents of a file (or files). These files usually represent one or more of the following applications: • maintain mailing lists & print mailing labels • send customized mailings to selected individuals from a database • create & maintain inventories and price lists • create & maintain telephone or name & address directories • create & maintain personnel databases • create and maintain customer lists • export data to spreadsheets • anything that requires a sorted listing of information

The ease with which one can create and maintain this data is what separates one database manager from another. It is not necessarily true that "you get what you pay for". Some of the more expensive programs are so cumbersome, many would-be users are lost before they even get the program started. PC-File III+ has "Pop-Up" moveable windows to assist the user at any moment. These windows are context sensitive meaning the help refers only to the question being asked. The TEACH mode saves the trouble of requesting help as it automatically displays the help screens as you change screens. Hot keys and macros are available to speed up data entry and customization. PC-File III+ will store previously-entered data and "memorize" data that is used frequently for instant recall onto the screen.

Other features of PC-FILE III + Version 2.0 are: • Customized data entry screens • Copy information from other databases for use in the current one • Horizontal & vertical bar charts • Line, scatter, and pie graphs • Letter writer with mail merge to your mailing list database • Calculations can be performed in the database fields • Four different reporting methods • Browse 20 records with left/right scrolling • Encrypted multi-level password protection • Search fields with "sounds like, generic, imbedded or wildcard" • Modify or delete fields (or portions of a field) globally • Valid input character definitions for any field • Place date & time stamps into a field automatically • Print labels and special reports on demand (snapshot) • Store Last name with First name • Import or export data in many different formats • Maximum 3000 character record limit. • And More!

(The Office Publisher Continued From Page 9)
hand disk storage capabilities. (thousand of pages long...)

Forms Design

TOP is the only one of the three with a specific module geared to forms design. It is estimated that over 30% of the printing requirements for companies are forms. This aspect alone makes TOP worth looking at. Because it can save parts of forms as library objects for use in future forms as well.

TOP manages columnar work extremely well. Ventura Publisher has been known to give the nasty "out of memory" error if laying up too many columns across the page. With The Office Publisher 27 tabs per column area are handled, plenty for any price sheets, etc...

Another TOP feature is the pixel editor which allows you to edit paint files within the document. This simplifies small changes in paint files; with nice features like being able to inverse the image or flip it horizontally and vertically.

TOP also has extensive support for foreigner languages with 14 keyboard layouts, and extensive password protection; a handy feature. It's help function is excellent.

One major deficiency is the lack of support for vector graphics software - such as Autocad or Draw packages. Laser Friendly says future versions will support them.

It is also argued that TOP has over-complex dialog boxes. The publisher claims that this represents built-in power that you can grow into. At a recent Vancouver trade show, the Laser Friendly representative did suggest this package is best implemented with one person acting as the systems manager; setting up the style sheets and tags so that others just use them rather than spend time learning to master them. I did find them somewhat cumbersome on the first time through.

Is There Room For Three At the Top?

Because Print Three uses TOP in its franchises, it certainly has a more commercial feel to the program than Ventura or Pagemaker. To determine whether you will require the sophistication and power of The Office Publisher evaluate your in-house needs, budget, personnel expertise and timeframe in getting up and running. Although The Office Publisher faces an uphill battle against the well established Ventura and Pagemaker, its wealth of features make it a product worth considering if your needs for DTP go beyond the basics. Ultimately the big issue will be support, both the company's own ability to support the product against the major contenders, but also support given by third party vendors. Book publishers, consultants, training institutions and service bureaus must all demonstrate with their own products and services that they also believe that The Office Publisher is here to stay.

By Daken Ariel President of Coast Computers 736-5039

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Classified Ads

BBS

MINDLINK

8 phone lines 300-1200-2400 Baud Rates
Feature Packed 533-2312

Employment Wanted

Kwantlen College Computer Information Services Graduate seeks permanent employment. Exp. in several languages and software packages as well as customer service. Russell 591-6905

Motivated person experienced in graphic arts production using the Mac programs like XPress, Pagemaker, Illustrator, CricketDraw & others, seeks employment with company 687-7380

SUBSIDIZED MICRO COMPUTER

OPERATORS trained in dBase III+, VP Planner, Bedford, WordPerfect & ACCPAC GL. Government Wage subsidies available for on the job training employment opportunities. Call Shirley MacDonald Pearson Computer Centre 327-3225

Manual Writer, Software & Hardware, looking for projects. Also on-screen tutorials with Bricklin Demo program. Ron Kirkby Ph.D. 684-4711

Macintosh Programmer and SFU Comp Science Student seeks summer or permanent employment. Experienced in all Mac Software: Pascal & C. Ted 581-0023

Responsible BCIT CST student seeks summer employment can start part-time today. Shannon 270-8801

Employment Opportunities

CHINESE WORD PROCESSING OPERATOR WANTED. Mail resume to: Box 46725 Station G Vancouver V6R 4K8

Office Manager

Richmond Distributor of Computer products requires energetic and enthusiastic individual to handle administration. Send resume in confidence to: File #200-01 Adam Peripherals Inc., Suite 400 375 Water St. Vancouver V6B 5C6

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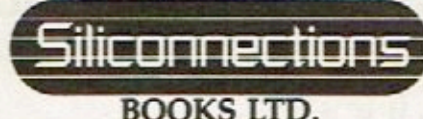
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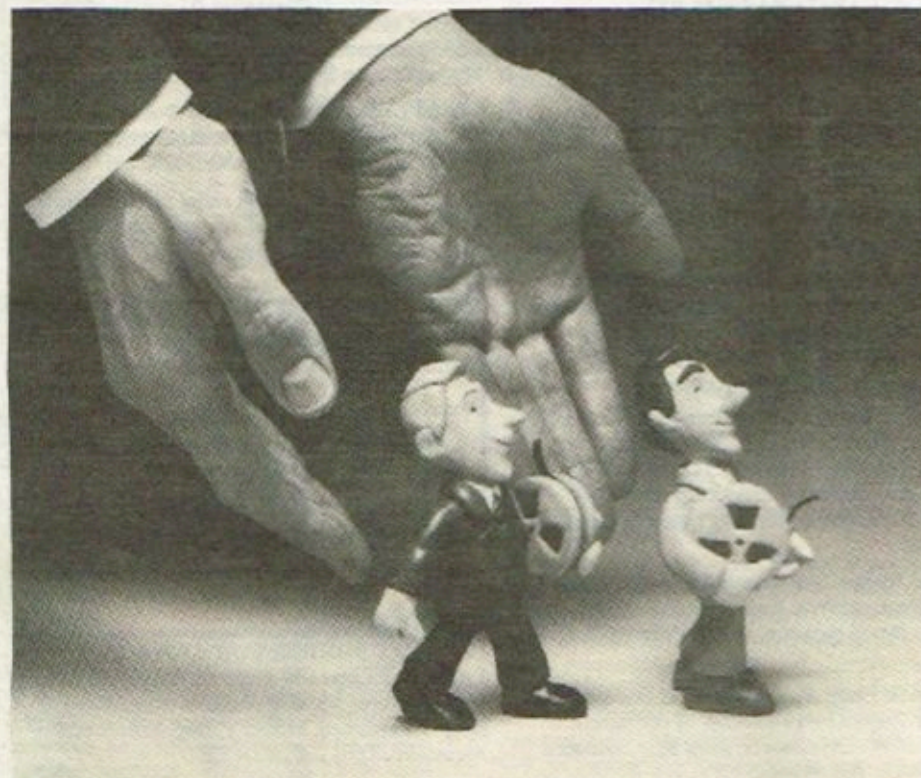
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